Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Annual Assessment of the Status of	)	CS Docket No. 00-132
Competition in the Market for the Delivery	)	
of Video Programming	)	

SEVENTH ANNUAL REPORT

Adopted: January 2, 2001 **Released: January 8, 2001**

By the Commission: Commissioner Furchtgott-Roth dissenting and issuing a statement.

Table of Contents

I. INTRODUCTION

1. This is the Commission's seventh annual report ("*2000 Report*") to Congress on the status of competition in the market for the delivery of video programming.[1] Section 628(g) of the Communications Act of 1934, as amended ("Communications Act"), requires the Commission to report annually to Congress on the status of competition in the market for the delivery of video programming.[2] Congress imposed this annual reporting requirement in the Cable Television Consumer Protection and Competition Act of 1992 ("1992 Cable Act")[3] as a means of obtaining information on the competitive status of markets for the delivery of video programming.[4]

A. Scope of this Report

2. The *2000 Report* updates the information in our previous reports and provides data and information that summarize the status of competition in markets for the delivery of video programming. The information and analysis provided in this report are based on publicly available data, filings in various Commission proceedings, and information submitted by commenters in response to a *Notice of Inquiry* ("*Notice*") in this docket.[5] To the extent that information provided in previous annual reports is still relevant, we do not repeat that information in this report other than in an abbreviated fashion, and provide references to the discussions in prior reports.

3. In Section II, we examine the cable television industry, existing multichannel video programming distributors ("MVPDs") and other program distribution technologies and potential competitors to cable television. Among the MVPD systems or techniques discussed are direct broadcast satellite ("DBS") services and home satellite dishes ("HSDs"), wireless cable systems using frequencies in the multichannel multipoint distribution service ("MMDS"), private cable or satellite master antenna television ("SMATV") systems as well as broadcast television service. We also consider other existing

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[1] The Commission's previous reports appear at: *Implementation of Section 19 of the 1992 Cable Act (Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming)*, CS Docket No. 94-48, First Report ("*1994 Report*"), 9 FCC Rcd 7442 (1994); *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 95-61, Second Annual Report ("*1995 Report*"), 11 FCC Rcd 2060 (1996); *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 96-133, Third Annual Report ("*1996 Report*"), 12 FCC Rcd 4358 (1997); *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Docket No. 97-141, Fourth Annual Report ("*1997 Report*"), 13 FCC Rcd 1034 (1998); *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Docket No. 98-102, Fifth Annual Report ("*1998 Report*"), 13 FCC Rcd 24284 (1998); and *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Docket No. 99-230, Sixth Annual Report ("*1999 Report*"), 15 FCC Rcd 978 (2000).

[2] Communications Act of 1934, as amended, § 628(g), 47 U.S.C. § 548(g).

[3] Pub.L. No. 102-385, 106 Stat. 1460 (1992).

[4] The 1992 Act imposed a regulatory scheme on the cable industry designed to serve as a transitional mechanism until competition develops and consumers have adequate multichannel video programming alternatives. One of the purposes of Title VI of the Communications Act, Cable Communications, is to "promote competition in cable communications and minimize unnecessary regulation that would impose an undue economic burden on cable systems." 447 U.S.C. § 521(6).

[5] *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 00-132, Notice of Inquiry ("*Notice*"), 15 FCC Rcd 13563 (2000). Appendix A provides a list of commenters and the abbreviations by which they are identified herein.

and potential distribution technologies for video programming, including the Internet, home video sales and rentals, local exchange telephone carriers ("LECs"), and electric and gas utilities.

4. In Section III of this report, we examine market structure and competition. We evaluate horizontal concentration in the multichannel video marketplace and vertical integration between cable television systems and programming services. We also discuss competitors serving multiple dwelling unit ("MDU") buildings. We further address programming issues and technical advances. In Section IV, we examine a limited number of cases where consumers have a choice between an incumbent cable operator and another MVPD in a specific market and report on the effects of this entry.

B. Summary of Findings

5. In the *2000 Report*, we examine the status of competition in the market for the delivery of video programming, discuss changes that have occurred in the competitive environment over the last year, and describe barriers to competition that continue to exist. Overall, the Commission finds that competitive alternatives and consumer choices continue to develop. Cable television still is the dominant technology for the delivery of video programming to consumers in the MVPD marketplace, although its market share continues to decline. As of June 2000, 80 percent all MVPD subscribers received their video programming from a franchised cable operator, compared to 82 percent a year earlier.

6. The total number of subscribers to both cable and non-cable MVPDs continues to increase. A total of 84.4 million households subscribe to multichannel video programming services as of June 2000, up 4.4 percent over the 80.9 million households subscribing to MVPDs in June 1999. This subscriber growth accompanied a 2.4 percentage point increase in MVPDs' penetration of television households to 83.8 percent as of June 2000.

7. Since the *1999 Report*, the number of cable subscribers continued to grow, reaching 67.7 million as of June 2000, up about 1.5 percent from the 66.7 million cable subscribers in June 1999. The total number of non-cable MVPD subscribers grew from 14.2 million as of June 1999 to 16.7 million as of June 2000, an increase of almost 18 percent.

8. The growth of non-cable MVPD subscribers continues to be primarily attributable to the growth of DBS. DBS appears to attract former cable subscribers and consumers not previously subscribing to an MVPD. Between June 1999 and June 2000, the number of DBS subscribers grew from 10.1 million households to almost 13 million households, which is nearly three times the cable subscriber growth rate. DBS subscribers now represent 15.4 percent of all MVPD subscribers. There also have been a number of additional cable overbuilds in the last year. While the Commission has certified new open video systems, some OVS operators have converted portions of their systems to franchised cable operations. Over the last year, the number of subscribers to and market shares of HSD and MMDS subscribers continued to decline. However, the number of SMATV subscribers has increased slightly this year.

9. During the period under review, cable rates rose faster than inflation. According to the Bureau of Labor Statistics, between June 1999 and June 2000, cable prices rose 4.8 percent compared to a 3.2 percent increase in the Consumer Price Index ("CPI"), which measures general price changes. Concurrently with these rate increases, capital expenditures for the upgrading of cable facilities increased (up 89.3 percent over 1998), the number of video and non-video services offered increased, and programming costs increased (license fees increased by 12.2 percent and programming expenses increased by 16.2 percent). We also note that cable operators' pricing decisions may be affected where direct competition exists. Available evidence indicates that when an incumbent cable operator faces "effective competition," as defined by the Communications Act, it responds to such head-to-head

competition in a variety of ways, including lowering prices or adding channels without changing the monthly rate, as well as improving customer service and adding new services such as interactive programming.

10. The Telecommunications Act of 1996 ("1996 Act")[6] removed barriers to LEC entry into the video marketplace in order to facilitate competition between incumbent cable operators and telephone companies. At the time of the 1996 Act, it was expected that LECs would compete in the video delivery market and that cable operators would provide local telephone exchange service. We previously reported that there had been an increase in the amount of video programming provided to consumers by telephone companies, although the expected technological convergence that would permit use of telephone facilities for video service had not yet occurred. This year, we find that the rate of entry by LECs appears to be slowing even by the most aggressive telephone companies, and several LECs have reduced or eliminated their MVPD efforts. Most incumbent local telephone exchange carriers are seeking to sell their MVPD facilities (e.g., Ameritech and SNET's cable assets now owned by SBC, GTE's assets now owned by Verizon), preferring to market DBS service to their customers. BellSouth appeared to be the exception to this trend, offering MMDS service in an area covering 3.5 million homes and acquiring cable franchises in 21 areas with the potential to pass 1.4 million homes. In December 2000, however, BellSouth announced that it will phase out its wireless cable service and transition existing subscribers to EchoStar's DBS service, although it will continue to operate wireline cable systems. While the 1996 Act created the OVS framework as a means of entry into the video marketplace by LECs, few telephone companies have sought certification. Alternatively, only a limited number of cable operators have begun to offer telephone service and their strategies for deployment remain varied. MSOs, such as Cox and AT&T, continue to deploy traditional circuit-switched telephone service. Others, like Cablevision and Comcast, are offering cable–delivered telephony on a limited basis, waiting until Internet Protocol ("IP") technology becomes available before accelerating their rollout of telephone service, or continuing to test such service.

11. The most significant convergence of service offerings continues to be the pairing of Internet service with other service offerings. There is evidence that a wide variety of companies throughout the communications industries are attempting to become providers of multiple services, including data access. Cable operators continue to expand the broadband infrastructure that permits them to offer high-speed Internet access. Currently, the most popular way to access the Internet over cable is through the use of a cable modem and personal computer. Virtually all the major MSOs offer Internet access via cable modems in portions of their nationwide service areas. A small portion of cable Internet access is delivered through a television receiver rather than a personal computer. Many cable operators also are planning to integrate telephony and high-speed data access. Like cable, the DBS industry is developing ways to bring advanced services to their customers. For example, DirecTV currently offers a satellite-delivered high-speed Internet access service with a telephone return path called DirecPC. EchoStar now offers its subscribers an interactive program guide and weather service from OpenTV, a company that produces interactive television technology, and will soon launch Wink-enhanced TV, which allows viewers to use their remote controls to access program-related information, request product samples or free coupons, or purchase merchandise directly from television. Many SMATV operators offer local and long distance telephone service and Internet access along with video service. In addition, digital technology makes it possible for MMDS operators, who provide video service in only limited areas, to offer two-way services, such as high-speed Internet service and telephony. Sprint and MCI WorldCom have acquired most of the larger MMDS operators with the intent to use the acquired frequencies to provide two-way, non-video communications services.

[6] Telecommunications Act of 1996, Pub.L.No. 104-104, 110 Stat. 56 (1996).

12. Non-cable MVPDs continue to report that regulatory and other barriers to entry limit their ability to compete with incumbent cable operators and to thereby provide consumers with additional choices. Non-cable MVPDs also continue to experience some difficulties in obtaining programming from both vertically integrated cable programmers and unaffiliated programmers who continue to make exclusive agreements with cable operators. In multiple dwelling units ("MDUs"), potential entry may be discouraged or limited because an incumbent video programming distributor has a long-term and/or exclusive contract. Other issues also remain with respect to how, and under what circumstances, existing inside wiring in MDUs may be made available to alternative video service providers.

13. Consumers historically reported that their inability to receive local signals from DBS operators negatively affected their decision as to whether to subscribe to DBS. This year's significant increase in DBS subscribership has been attributed, at least in part, to the authority granted to DBS providers to distribute local broadcast television stations in their local markets by the Satellite Home Viewer Improvement Act of 1999 ("SHVIA") enacted on November 29, 1999.[7] Under SHVIA, DBS operators can offer a programming package more comparable to and competitive with the services offered by cable operators. DirecTV now offers a package of local ABC, CBS, NBC, and Fox affiliates along with a national PBS feed in 38 markets for $5.99 a month. EchoStar offers similar service in 34 markets. Moreover, in the last year, as required by SHVIA, the Commission has adopted rules for satellite companies with regard to mandatory carriage of broadcast signals, retransmission consent, and program exclusivity that closely parallel the requirements for cable service.

14. Our findings as to particular distribution mechanisms operating in markets for the delivery of video programming including the following:

- Cable Systems: Since the *1999 Report*, the cable television industry has continued to grow in terms of subscribership (up to 67.7 million subscribers as of June 2000, a 1.5 percent increase from June 1999), revenues (an approximate 13 percent increase between year end 1998 and year end 1999), audience ratings (non-premium cable viewership rose from a 42 share at the end of June 1999 to almost a 46 share at the end of June 2000), and expenditures on programming (an approximate 12 percent increase in program license fees paid by cable system operators). However, the number of national satellite-delivered video programming services, which had been increasing steadily in recent years, decreased by two networks, from 283 to 281, between June 1999 and June 2000.

- The cable industry remains healthy financially, which has enabled it to invest in improved facilities, either through upgrades or rebuilding. As a result, there have been increases in channel capacity, the deployment of digital transmissions that provide better picture quality than can be offered through analog service, and non-video services, such as Internet access. Cable operators also offer telephony, although the use of integrated facilities remains primarily experimental with limited exceptions.

- Direct-to-Home ("DTH") Satellite Service (DBS and HSD): Video service is

[7] SHVIA was enacted as Title I of the Intellectual Property and Communications Omnibus Reform Act of 1999 ("IPACORA") (relating to copyright licensing and carriage of broadcast signals by satellite carriers, codified in scattered sections of 17 and 47 U.S.C.), Pub.L. No. 106-113, 113 Stat. 1501, 1501A-526 to 1501A-545 (Nov. 29, 1999).

available from high power DBS satellites that transmit signals to small DBS dish antennas installed at subscribers' premises, and from low power satellites requiring larger satellite dish antennas. As reported last year, DirecTV acquired medium power satellite provider PrimeStar. Following a transition period for PrimeStar's subscribers to convert to DirecTV's service, PrimeStar ceased to exist on September 30, 1999. DBS has over ten million subscribers, an increase of approximately 29 percent since the *1999 Report*. Between June 1999 and June 2000, the number of HSD subscribers, measured as the number of HSD users that actually purchase programming packages, declined from 1.8 million to 1.5 million, a decrease of 17 percent, that is likely due to subscribers switching to DBS. DirecTV and EchoStar are among the ten largest providers of multichannel video programming service. In June 2000, DBS represented a 15.4 percent share of the national MVPD market and HSD represented another 1.8 percent of that market.

- Wireless Cable Systems: Currently, the wireless cable industry ("MMDS") provides competition to the cable industry in only limited areas. MMDS subscribership fell from 821,000 subscribers to 700,000 subscribers between June 1999 and June 2000, a decrease of 14.7 percent. With the advent of digital MMDS and the Commission's authorization of two-way MMDS service, it appears that MMDS spectrum will be used to provide video services in limited areas, and that most MMDS spectrum will eventually be used to provide high-speed data services. Wireless cable represented a 0.8 percent share of the national MVPD market in June 2000.

- SMATV Systems: SMATV systems use some of the same technology as cable systems, but do not use public rights-of-way, and focus principally on serving subscribers living in multiple dwelling units ("MDUs"). SMATV subscribership has increased approximately 3.5 percent since the last report, with the industry representing approximately a 1.8 percent share of the national MVPD subscribership as of June 2000.

- Broadcast Television: Broadcast networks and stations are competitors to MVPDs in the advertising and program acquisition markets. They supply video programming directly to the approximately 20 percent of television households that are not MVPD subscribers. Additionally, broadcast networks and stations are suppliers of content for distribution by MVPDs. Since the *1999 Report*, the broadcast industry has continued to grow in the number of operating stations (from 1599 in 1999 to 1663 in 2000) and in advertising revenues ($36.6 billion in 1999, a 5.7 percent increase over 1998). While audience levels continue to decline, the four major television networks still account for a 50 percent share of prime time viewing for all television households. Broadcast television stations continue to deploy digital television ("DTV") service. There are 173 television stations on the air broadcasting DTV signals, and digital simulcast of analog programming continues to increase.

- LEC Entry: The 1996 Act expanded opportunities for LECs to enter the market for the delivery of video programming. In the *1999 Report*, we noted that it appeared that the rate of entry into the video marketplace by LECs might be slowing, even by the most aggressive LECs, and that several LECs had reduced

or eliminated their MVPD efforts. This trend continued or accelerated this year. Most incumbent local exchange carriers are seeking to sell their MVPD facilities, preferring instead to market DBS service to their customers. One notable exception is BellSouth, which continues to pursue a number of methods for providing MVPD service. BellSouth has been the largest LEC investor in MMDS licenses, with its service area covering approximately 3.5 million homes. However, in December 2000, BellSouth announced that it was phasing out this service and transitioning existing subscribers to EchoStar's DBS service. It has acquired 21 cable franchises in its telephone service area with the potential to pass 1.4 millions, provides service in 12 franchise areas, and is negotiating for additional franchises. Previously, Ameritech was the most significant LEC provider of in-region cable service, but recent reports indicate that SBC, its current owner, seeks to sell these cable assets. Verizon, which acquired GTE's 10 competitive and one non-competitive cable franchises, is seeking to sell those cable assets. SNET, now also owned by SBC, currently offers service to 30,000 homes in 29 Connecticut localities, but is seeking permission from the state to discontinue this service. U S West continues to offer video, high-speed Internet access, and telephone service over existing copper lines using very high speed digital subscriber line ("VSDL") in Omaha and Phoenix.

- Open Video Systems: In the 1996 Act, Congress established a new framework for the delivery of video programming -- the open video system ("OVS"). Under these rules, a LEC or other entrant may provide video programming to subscribers, although the OVS operator must provide non-discriminatory access to unaffiliated programmers on a portion of its channel capacity. The Commission has certified 25 OVS operators to serve 50 areas. RCN owns the only operating open video systems and currently serves areas surrounding Boston, New York City, Washington, D.C, and San Francisco. In several areas for which it holds OVS certifications, or portions of these areas, RCN has converted its systems to franchised cable systems. The number of OVS subscribers has remained constant over the last year at approximately 60,000 subscribers. OVS subscribers now represent slightly less than 0.1 percent of all MVPD subscribers.

- Internet Video: Currently, 56 percent of the U.S. population has Internet access. Real-time and downloadable video accessible over the Internet continues to become more widely available and the amount of content also is increasing. Despite the evidence of increased interest in Internet video deployment and use, the medium is still not seen as a direct competitor to traditional video services. Television quality Internet video requires a high-speed broadband connection, which most current broadband providers cannot guarantee. Also, deployment of broadband is far from ubiquitous. However, Internet users continue to download and use software for accessing Internet video and Web sites dedicated to streaming video continue to proliferate.

- Home Video Sales and Rentals: The home video marketplace includes the sale and rental of video cassettes, DVDs, and laser discs. As in past reports, we consider home video sales and rentals part of the video marketplace because they provide services similar to the premium and pay-per-view offerings of MVPDs. Almost 86 percent of all U.S. households have at least one VCR. The number of

homes with DVD players has grown rapidly since their introduction into the market, with the number of homes with DVD players expected to reach between 10 and 12 million by the end of 2000. The newest home video technology, the personal video recorder ("PVR"), was introduced in 1999. A PVR is a device connected to a television set that uses a hard disk drive, software, and other technology to digitally record and access programming. In the last year, TiVo and ReplayTV, the two PVR companies, have joined with MVPDs, equipment manufacturers, advertisers, and programmers to incorporate PVR technology into set-top boxes and develop content specifically for PVRs.

- Electric Utilities: Since the *1999 Report*, several electric and gas utilities have announced, commenced, or moved forward with ventures involving multichannel video programming distribution. Utilities are not yet major competitors in the telecommunications or cable markets, but they generally possess characteristics, such as ownership of fiber optic networks and access to public rights-of-way, that could potentially help them become competitively significant. Moreover, deregulation of utilities, accompanied by the advent of competition, is prompting more utilities to diversify and find new revenue streams. Starpower, a joint venture between RCN and PEPCO, continues to expand the area where it offers voice, video, and high-speed Internet access in the Washington, D.C., area. Last year, we reported that Seren, a wholly-owned subsidiary of Minneapolis-based Northern States Power, offered cable and high-speed data access as an overbuilder in several Minnesota communities. It also offers service in the San Francisco Bay area and plans to expand its service area. Siegecom, funded by Blackstone Capital and a joint venture of Southern Indiana Gas and Electric and Utilicom, is offering bundled voice, video and data access services in Evansville and Newburg, Indiana, and has approached other communities about obtaining franchises. Digital Union, a subsidiary of the local utility in Austin, Texas, plans to overbuild the incumbent cable operator. Braintree, Massachusetts, granted a franchise to the municipal utility and plans to begin cable service by the end of 2000.

15. We also find that:

- Consolidations within the cable industry continue as cable operators acquire and trade systems. The ten largest operators now serve close to 90 percent of all U.S. cable subscribers. However, in terms of one traditional economic measure, national concentration among the top MVPDs has increased since last year, although it remains below the levels reported in earlier years.[8] DBS operators DirecTV and EchoStar rank among the ten largest MVPDs in terms of nationwide subscribership along with eight cable multiple system operators ("MSOs"). As a result of acquisitions and trades, cable MSOs have continued to increase the extent to which their systems form regional clusters. Currently, 44 million of the nation's cable subscribers are served by systems that are included

[8] Traditional economic measures (e.g., the Herfindahl-Hirschman Index or HHI) are based on market shares or the squaring of market shares such that large companies are weighed more heavily than small companies. The HHI (and apparent levels of concentration) decline with rising equality among any given number of companies in terms of market shares even if these firms individually have larger shares of the markets.

in regional clusters. By clustering their systems, cable operators may be able to achieve efficiencies that facilitate the provision of cable and other services, such as telephony.

- The number of satellite-delivered programming networks has decreased by two from 283 in 1999 to 281 in 2000. Vertical integration of national programming services between cable operators and programmers, measured in terms of the total number of services in operation, declined from last year's total of 37 percent to 35 percent this year, continuing a five year trend. In 2000, one or more of the top five cable MSOs held an ownership interest in each of 99 vertically integrated national programming services. Sports programming warrants special attention because of its widespread appeal and strategic significance for MVPDs. The *2000 Report* identifies 75 regional networks, 27 of which are sports channels, many owned at least in part by MSOs. There are also 30 regional and local news networks that compete with local broadcast stations and national cable networks (e.g., CNN).

- The program access rules adopted pursuant to the 1992 Cable Act were designed to ensure that other MVPDs can have access to vertically-integrated satellite delivered programming on non-discriminatory terms. We recognize that the terrestrial distribution of programming, including in particular regional sports programming, could eventually have a substantial impact on the ability of alternative MVPDs to compete in the video marketplace. We will continue to monitor this issue and its impact on the competitive marketplace.

- Cable operators and other MVPDs continue to develop and deploy advanced technologies, especially digital compression techniques, to increase the capacities and to enhance the capabilities of their transmission platforms. These technologies allow MVPDs to deliver additional video options and other services (e.g., data access, telephony, and interactive services) to their subscribers. To access these wide ranging services, consumers use "navigation devices." Pursuant to section 629 of the Communications Act, which is intended to ensure commercial availability of these navigation devices, the Commission adopted rules that required MVPDs to unbundle security from other functions of digital set-top boxes by July 1, 2000. The cable industry reports that cable operators have met this deadline to have digital separate security modules available for consumers. Interface requirements and a certification process for the high-speed cable modems needed to access data services have also been developed. Cable modems are now for sale in selected markets. We expect these developments to increase competition in the market for equipment used by subscribers. In addition, in the last year, interactive television ("ITV") services are beginning to be offered through cable, satellite, and terrestrial technologies. ITV provides or has the potential to provide a wide range of services, including video on demand ("VOD"), e-mail, TV-based commerce, Internet access, and program-related content, using digital set-top boxes and other devices that interface with television receivers (e.g., WebTV).

II. COMPETITORS IN THE MARKET FOR THE DELIVERY OF VIDEO PROGRAMMING

A. Cable Industry

16. This section addresses the performance of franchised cable system operators during the past year.[9] We address five different areas of performance. First, we report on general performance in terms of available basic services, subscriber levels, and viewership. Second, we discuss the cable industry's financial performance, including its revenue, cash flow status, and stock valuations. Third, in the area of capital acquisition and disposition, we examine the amount of funds raised and describe how these funds are being used to upgrade physical plant and to acquire new systems. Fourth, we consider other performance indicators such as system transactions, cable overbuilds,[10] and rates charged by cable operators. Lastly, we address advanced broadband services, including the growth of cable data access, digital broadband services, and broadband telephony.[11]

1. General Performance

17. Since our last report, the cable industry has continued to grow in homes passed,[12] basic cable subscribership,[13] premium service subscriptions,[14] basic cable viewership, basic cable penetration,[15] and

[9] A franchise is defined as an authorization supplied by a federal, state, or local government entity to own or construct a cable system in a specific area. Communications Act §§ 602(9), 602(10), 47 U.S.C. §§ 522(9), 522(10). A cable system operator is defined as "any person or group of persons (A) who provides cable service over a cable system, and directly or through one or more affiliates owns a significant interest in such cable system; or (B) who otherwise controls or is responsible for, through any arrangement, the management and operation of such a cable system." Communications Act § 602(5), 47 U.S.C. § 522(5). *See also* 47 C.F.R. § 76.5(cc).

[10] An "overbuild" occurs when two or more wireline cable television systems directly compete for subscribers in a local video programming delivery market.

[11] The advanced broadband services discussed here include cable telephony and Internet Protocol ("IP") telephony, Internet access through cable modems, digital video, video-on-demand ("VOD") and near-video-on-demand ("NVOD"), and interactive guides/interactive programming.

[12] Homes passed is defined as the total number of households capable of receiving cable television service.

[13] We refer to all cable programming networks offered as a part of program packages or tiers as "basic cable networks." The primary level of cable television service is commonly referred to as "basic service" and must be taken by all subscribers. The content of basic service varies widely among cable systems but, pursuant to the Communications Act, must include all local television signals and public, educational, and governmental access channels and, at the discretion of the cable operator, may include satellite delivered cable programming channels carried on the system. One or more expanded tiers of service, known as Cable Programming Service ("CPS") tiers for purposes of rate regulation, and often known as expanded basic, also may be offered to subscribers. These expanded tiers of service usually include additional satellite delivered cable programming channels and are available for additional monthly fees. Communications Act §§ 623(b)(7), 623(l)(1), 47 U.S.C. §§ 543(b)(7), 543(l)(2).

[14] Premium services are cable networks provided by a cable operator on a per channel basis for an extra monthly fee. Pay-per-view services are cable networks provided by a cable operator on a per program basis. Pay-per-view service is a separate category from premium service. Communications Act §§ 623(b)(7), 623(l)(2), 47 U.S.C. §§ 543(b)(7), 543(l)(2).

[15] Basic cable penetration is defined as the ratio of the number of cable subscribers to the total number of households passed by the system.

channel capacity.[16] Deployment of broadband service offerings also grew during 1999 and the first half of 2000, including increased offerings of digital video, Internet access through cable, interactive cable, and facilities-based broadband telephony.

18. ***Cable's Capacity to Serve Television Households***. The number of U.S. homes with at least one television ("TV households") was reported during the 1998-1999 television season as 99.4 million.[17] During the 1999-2000 television season the number of U.S. TV Households was reported as 100.8 million, and increase of 1.4 percent over the prior year.[18] The number of homes passed by cable was approximately 95.6 million at the end of 1998 and 96.6 million at the end of 1999, and by the end of June 2000 was estimated to be 97.1 million, according to one source.[19] The most widely used industry measurement of cable availability is the number of homes passed expressed as a percentage of TV households. In June 2000, this statistic, homes passed as a percentage of TV households, was 96.6 percent, unchanged from the previous year.[20] Some parties have proposed to use different measures of cable availability.[21] The resulting statistic varies depending on the estimate of homes passed and whether the comparison is based on TV households, all households, all occupied housing units, or all housing units in the United States, as some have suggested.[22] For example, one source estimates the number of homes passed as 91 million homes, an estimate that is lower than the one provided by the source the Commission has used in recent *Reports*.[23] If this estimate for the number of homes passed is compared to

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[16] Channel capacity is defined as the maximum number of video channels that a system can carry simultaneously. Video channel capacity can be decreased on any given network simply by using bandwidth for other services such as Internet.

[17] Nielsen Media Research. Nielsen Media Research estimates the number of television households annually, and industry practice is to use this figure throughout the television broadcast season, which begins in September and ends in August of the following calendar year. Thus, the figure for TV households in June 2000 is the same as the figure for December 1999. In App. B, Tbl. B-1, we report the number of television households as of year-end 1999 and June 2000. These figures are from Paul Kagan Associates, and we use these estimates of television households for consistency with the remainder of reported figures in this section.

[18] U. S. Television Household Estimates September 1999, DMA Rankings, Nielsen Media Research.

[19] *See* App. B, Tbl. B-1.

[20] *Id.*

[21] In its comments, NRTC expresses concern that the percentage of homes passed by cable may not be as high as the Commission has reported in the past. Thus, it claims that the reported number misrepresents the actual availability of cable services, particularly among rural Americans. NRTC Comments at iii, and 6-8. NCTA contends that the notion that a large portion of rural America is likely to be unserved by cable now or in the near futures is untrue. It notes that, although it has been costly to serve areas with the lowest density of homes, the cable industry began in rural areas as a community antenna service. It states that the industry remains committed to building out to the lowest density that is economically feasible, a density that continues to become lower over the years. NCTA Reply Comments at 10-11.

[22] NRTC Comments at 7-8. *See also* National Telecommunications and Information Administration, United States Department of Commerce and Rural Utilities Service, United States Department of Agriculture, *Advanced Telecommunications in Rural America, The Challenge of Bringing Broadband Service to All Americans* ("NTIA/RUS Report"), April 2000, at 19, n. 62.

[23] NCTA Web site, http://ncta.cyberserv.com/qs/user_pages/Dev%28statedata%29.cfm *citing* data from Warren Publishing, Inc. Estimates of the number of homes passed by cable are derived from a number of sources and samples and, therefore, the reported variability among estimates is not unexpected.

the number of all housing units, the largest number suggested for this comparison, the estimate of cable availability could be as low as 81 percent.[24]

19. ***Subscribership***. Basic cable television subscribership grew from 66.1 million subscribers at the end of 1998 to 67.3 million subscribers at the end of 1999, an increase of 1.8 percent.[25] It continued to grow to an estimated 67.7 million subscribers by June 30, 2000, a six month increase of approximately 0.6 percent.[26] Basic cable penetration grew between 1998 and 1999, increasing from 69.1 percent at the end of 1998 to 69.7 percent at the end of 1999.[27] Basic cable penetration remained unchanged at 69.7 percent at the end of the first half of 2000.[28] The percentage of TV households subscribing to cable continued to increase, rising to 67.3 percent of all TV households by the end of 1999, and to 67.4 percent by the end of June 2000.[29] The number of homes subscribing to one or more premium cable services increased from 35.3 million homes at the end of 1998 to 35.5 million homes at the end of 1999, an increase of 0.6 percent.[30] For the first half of 2000, premium cable subscribers increased again, reaching 35.8 estimated subscribers, a six month increase of about 0.8 percent. The number of premium services to which homes are subscribing (known as "premium units") has decreased since the end of 1998, declining 8.5 percent by the end of 1999 to 53 units and by June 2000, decreasing to 52.7 units.[31]

20. ***Channel Capacity***. As we have reported in the past, channel capacity has become more difficult to measure since the increased use of digital signal transmission.[32] In October 1999, cable systems with a capacity of 30 or more channels accounted for 85.4 percent of cable systems, or 8,236 systems.[33] Cable systems with channel capacities of 54 channels or more accounted for 22.4 percent of cable systems in October 1999, or 2,164 systems.[34] In addition, as of October 1999, 79 cable systems had a capacity of 91 or more channels.[35] In October 2000, it was reported that cable systems with a capacity of 30 or more channels accounted for 86.6 percent of cable systems.[36] This represents 8,032 systems

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[24] NRTC Comments at 6-8; NTIA/RUS Report at 19, n. 62. Using a lower numerator and a higher denominator results in a lower percent. *See also* NCTA Reply Comments at 10.

[25] *See* App. B, Tbl. B-1.

[26] *Id.*

[27] *Id.*

[28] *Id.* Basic cable penetration is defined as the ratio of the number of cable subscribers to the total number of households passed by the system.

[29] *Id.* The percentage of TV households subscribing to cable is the ratio of the number of cable subscribers to the total number of households with at least one television.

[30] *See* App. B, Tbl. B-2.

[31] *Id.* This decrease is attributed to a decrease in the number of services classified by the source as "premium."

[32] *See 1998 Report,* 13 FCC Rcd at 24295, n. 34.

[33] *See* App. B, Tbl. B-3.

[34] *Id.*

[35] *Id.*

[36] *Id.* While the available channel capacity data for 2000 may not be final, we continue to use the same sources we have in the past for comparison purposes. Use of October to October data is consistent with our *1997, 1998, and 1999 Reports*, and is the method Warren Publishing, Inc., uses to report channel capacity system statistics. Warren (continued...)

nationwide.[37] Systems with channel capacities of 54 channels or more accounted for 24.2 percent of cable systems in October 2000, or 2,247 systems.[38] And as of October 2000, over 100 cable systems had a capacity of 91 or more channels.[39]

21. In October 1999, 98.6% percent of all cable customers subscribed to systems with capacities of 30 channels or more.[40] Moreover, 64.2 percent of all subscribers were served by systems with capacities of 54 or more channels in October 1999.[41] More than 4.7% of all cable subscribers subscribed to systems with channel capacity of 91 channels or more.[42] In October 2000, 99 percent of all cable customers subscribed to systems with capacities of 30 channels or more, and 68.5 percent of all subscribers were served by systems with capacities of 54 or more channels in October 2000.[43] In addition, more than 6.5 percent of all subscribers are served by systems with capacities of 91 or more channels.[44]

22. ***Viewership***. As reported last year, viewership shares of non-premium cable networks have continued to grow over the past decade, while viewership shares of broadcast television stations have steadily declined. This trend has continued over the past year. Audience share statistics for Monday through Sunday, 24 hours a day,[45] show that non-premium cable audience shares rose 7.8 percent from an average 42.2 share[46] from July 1998 through June 1999, to an average 45.5 share between July 1999 and June 2000.[47] Monday through Sunday, 24 hours a day, broadcast television audience shares decreased

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(...continued from previous page)
Publishing reports the percentage of all systems polled. For the purposes of this *Report*, the figures have been recalculated to report the percentage of systems responding to the Warren poll (*i.e.*, we subtract out the number of systems "not available" for response).

[37] *See* App. B. Tbl. B-3.

[38] *Id.*

[39] *Id.*

[40] *See* App. B, Tbl. B-4. Use of October to October data is consistent with our *1997, 1998, and 1999 Reports*, and is the method Warren Publishing, Inc., uses to report channel capacity system statistics. Warren Publishing reports the percentage of all systems polled. For the purposes of this *Report*, the figures have been recalculated to report the percentage of systems responding to the Warren poll (*i.e.*, we subtract the number of systems "not available" for response).

[41] *See* App. B. Tbl. B-4.

[42] *Id.*

[43] *Id.*

[44] *Id.*

[45] The audience statistics reported here are Nielsen Media Research measurements of television viewing 24 hours a day for an entire week (*i.e.*, Monday through Sunday).

[46] A share is the percent of all households using television during the time period that are viewing the specified station(s) or network(s). The sum of reported audience shares exceeds 100 percent due to multiple set viewing.

[47] Nielsen Media Research, *Total Day 24 hours 6 am - 6 am: Total US Ratings By Viewing Source*, Oct. 12, 2000. Nielsen reports non-premium, basic cable viewership as "Ad Supported Cable" and "All Other Cable." Premium services are classified as "Premium Pay."

2.1 percent from an average 60.9 share from July 1998 through June 1999, to an average 59.6 share between July 1999 and June 2000.[48]

23. ***Cable Networks.*** In 1999, the number of basic cable networks increased from 139 to 147, a 5.8 percent increase.[49] The number of premium networks increased 139 percent in 1999 from 18 at the end of 1998 to 43 at the end of 1999.[50] The number of pay-per-view ("PPV") networks decreased 11 percent in 1999 from ten to nine networks.[51] Half-year figures for 2000 are not available.

24. ***Programming Costs.*** Programming networks incurred expenses of approximately $5.8 billion for producing and acquiring programming in 1999, up 16.2 percent from 1998 expenses of $4.9 billion.[52] Reported estimates indicate that these programming network expenses will total $6.4 billion by year-end 2000, a 10.3 percent increase over 1999.[53] License fees paid by cable system operators to basic cable network programmers increased 12.2 percent, from approximately $4.9 billion in 1998 to $5.5 billion in 1999.[54] Analysts estimate that in 2000 fees will increase by an additional 10.9 percent to reach $6.1 billion.[55]

25. Other programming expenses incurred by cable operators include copyright fees for broadcast signal carriage pursuant to Section 111 of the Copyright Act.[56] As of December 12, 2000,[57] copyright fees paid by cable system operators for broadcast signal carriage for the period January 1, 1999, to June 30, 1999, were $55.6 million.[58] For the period July 1, 1999, through December 31, 1999, fees collected

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[48] Nielsen Media Research, *Total Day 24 hours 6 am - 6 am: Total US Ratings By Viewing Source*, Oct. 12, 2000. "Broadcast" shares include network affiliates, independent, and public broadcast stations.

[49] These statistics regarding types of cable networks are from *NCTA Cable Television Developments*, Spring/Summer 2000. These totals differ from those reported in the Vertical Integration Section of this report. In that section, the information on cable networks is from *NCTA Developments* and additional sources. *See* App. B, Tbl. B-5.

[50] *Id.*

[51] *Id.*

[52] Paul Kagan Assocs., Inc., *Basic Cable Network Economics (1995-2010)*, Cable Program Investor, June 16, 2000, at 7.

[53] *Id.*

[54] *Id.* License fees are the fees charged by a cable network to allow an operator to deliver the network's programming. License fees reported here do not include superstation license fees, common carrier payments, and copyright fees.

[55] *Id.*

[56] Copyright Act, 17 U.S.C. § 111 *et seq.*

[57] Copyright fees, though technically due on a specific date, are collected on a rolling basis. We report the most current figures available.

[58] Copyright Office, Library of Congress, *Licensing Division Report of Receipts*, Dec. 12, 2000. Date of "collection" indicates the date the Copyright Office has deposited payments made by cable operators. Payments are due within a certain time frame around the copyright period, however, operators submit payments on a continuing basis.

were $51.6 million, and for the period January 1, 2000, to June 30, 2000, fees collected were $53.1 million.[59]

2. Financial Performance

26. Data concerning cable industry revenue, cash flow, and stock prices indicate that the cable industry remained strong in 1999 and in the first half of 2000.[60]

27. ***Cable Industry Revenue.*** Annual cable industry revenue grew 12.5 percent in 1999 over 1998, reaching $36.7 billion.[61] By the end of 1999, revenue per subscriber grew 10.3 percent to $550.97 per subscriber per year, or $45.91 per subscriber per month.[62] Analysts estimate that 2000 year-end total revenue will reach $41.7 billion, an estimated 13.6 percent increase over 1999,[63] and that revenue per subscriber per year will reach approximately $616.56, or $51.38 per subscriber per month.[64]

28. When cable system revenue is classified by source, advanced video service revenue (analog and digital) show the greatest amount of growth in 2000, as was also the case in 1999.[65] Revenue from advanced video services increased 337.6 percent in 1999, reaching almost $2 billion, as operators continued to roll out new services.[66] Analysts estimate that revenue from advanced services will more than double between year-end 1999 and year-end 2000, reaching an estimated $4.2 billion by the end of 2000.[67] In the more traditional revenue-generating sectors of cable, the pay-per-view sector showed the greatest increase, generating almost $1 billion in annual revenue in 1999, a 52 percent increase over the previous year.[68] Industry analysts predict that pay-per-view will generate an estimated $1.5 billion in revenue in 2000, an increase of almost 60 percent.[69] Equipment and installation revenue increased 7.3 percent in 1999, from $2.6 billion in annual revenue in 1998 to a little more than $2.8 billion in 1999.[70]

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[59] *Id.*

[60] *See* Paul Kagan Assocs., Inc., *Cable and DBS Stocks: The Year in Review,* Cable TV Financial Databook 2000, Aug. 2000, at 98.

[61] *See* App. B, Tbl B-6.

[62] *Id.*

[63] *Id.*

[64] *Id.*

[65] The "advanced video services" category includes both analog video services and digital video services. Advanced analog services provide users with certain two-way capabilities such as pay-per-view ("PPV") and near-video-on-demand ("NVOD"). Digital video services can provide superior video picture quality and increased channel capacity. Both digital and advanced analog services require the use of a set-top box. *See also* fn. 11 *supra.*

[66] *See* App. B, Tbl. B-6.

[67] *Id.*

[68] *Id.* The increase in revenues attributed to PPV is likely the result of increased sales, rather than increased rates. For example, in 1999, pro wrestling increased in popularity and Mike Tyson returned to boxing. In addition increases in digital video services provided customers more movie choices.

[69] *See* App. B, Tbl. B-6.

[70] *Id.*

Industry analysts predict this revenue sector will increase to an estimated $3 billion by year-end 2000.[71] In 1999, home shopping revenue declined by 1.1 percent and revenue from premium channels decreased by 1.9 percent.[72] Annual revenue from local advertising increased from $1.8 billion in 1998 to $2.7 billion in 1999, a 45.1 percent increase, and is expected to increase 16.5 percent to $3.1 billion by year-end 2000.[73] Revenue from the basic service tier ("BST") and from the cable programming service tier ("CPST") combined grew from $21.8 billion in 1998 to $23.1 billion in 1999, a 6 percent increase, and is expected to increase to $24 billion by year-end 2000.[74]

29. ***Cable Industry Cash Flow***. Cash flow is used to assess the financial position of cable firms. Cash flow is generally expressed as "EBITDA" (earnings before interest, taxes, depreciation, and amortization). Financial analysts reported that industry-wide cash flow increased 6.8 percent between the end of 1998 and the end of 1999, from $14.6 billion to $15.6 billion.[75] Cash flow will increase an estimated 10 percent, reaching $17.2 billion by year-end 2000.[76] In 1999, the cable industry generated $233.88 in annual cash flow per subscriber, $8.01 higher than the $225.87 per subscriber generated in 1998.[77] Analysts estimate that in 2000, cash flow per subscriber per year will increase by $19.59, reaching $253.47.[78] The ratio of cash flow to revenue ("cash flow margin") decreased from 45.2 percent in 1998 to 42.4 percent in 1999, and is expected to decrease again to 41.1 percent by year-end 2000.[79]

30. ***Stock Prices***. Cable stock values grew more modestly in 1999 and 2000 than in prior years.[80] This is due in part to investors' eagerness for a return on investments made over the past several years, and increasing evidence of competition.[81] For example, between February and May 2000, cable stocks stagnated amid increasing visibility of video competition from DBS, head-to-head overbuilders, and LECs providing a competitive data service product.[82] Other factors contributing to the slow growth of

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[71] *Id.*

[72] *Id.*

[73] *Id.*

[74] *Id.* Basic cable rates are regulated at the local level. CPST rate regulation ended in March 1999. *See* 47 U.S.C. § 543 (c)(3), (c)(4).

[75] *See* App. B, Tbl. B-6.

[76] *Id.*

[77] *Id.*

[78] *Id.*

[79] *Id.* Cash flow margin is a commonly used financial analysis tool for determining a cable operator's operating efficiency, profitability, and liquidity.

[80] *See* Dennis H. Leibowitz, *Media and Communication Statistics: Monthly Reviews*, Donaldson Lufkin & Jenrette, Nov. 11, 1999-Sept. 13, 2000, at 1; Paul Kagan Assocs., Inc., *Cable and DBS Stocks: The Year in Review,* Cable TV Financial Databook 2000, Aug. 2000, at 97.

[81] *Id.*

[82] Dennis H. Leibowitz, *Media and Communication Statistics: Monthly Reviews*, Donaldson Lufkin & Jenrette, Mar. 8, 2000, Apr. 10, 2000, May 10, 2000, and June 8, 2000, at 1. *See* ¶¶ 125, 128 *infra* for information on LEC data services.

cable stock values in 1999 and 2000 include psychological factors relating to rising interest rates and overall negative market conditions.[83]

3. Capital Acquisition and Disposition

31. ***Industry Financing.*** The cable industry has typically relied on combinations of private and public financing, with the exact distribution of these combinations varying greatly from year to year. These year-to-year fluctuations in financing sources appear to be based on the availability of acceptable financing rates through private investors or capital lending institutions.

32. Between January and June 1999, the cable industry acquired approximately $2.2 billion in public equity offerings (i.e., sale of stock), $27 in private equity (i.e., financing from individuals, private corporations, venture capital firms and investment banks), $13.6 billion in private debt (i.e., banks and other borrowings), and $8.8 billion in public debt (i.e., sale of public bonds).[84] By year-end, the cable industry had obtained approximately $7.6 billion in public equity offerings, $5.4 billion in private equity financing, and the remaining $16 billion in public debt markets.[85] Between January 2000 and June 2000, the industry acquired $225 million in private debt, $815 million in public debt, and $380 million in public equity offerings.[86]

33. ***Capital Expenditures/Capital Investment.*** In 1999, the cable industry spent a total of $10.6 billion on the construction of new plant, upgrades, rebuilds, new equipment, and maintenance of new and existing equipment.[87] This represents an 89.3 percent increase over the $5.6 billion spent in 1998 for investments in plant and equipment, and for the expense of maintaining these investments.[88] Analysts expect that operators will spend an estimated $12.4 billion in 2000, an increase of 17 percent over 1999.[89] Of the $10.6 billion spent in 1999, approximately $1 billion was for maintenance expense, $500 million for new builds,[90] $2.5 billion for rebuilds,[91] $4.5 billion for upgrades,[92] and $2.1 billion for equipment.[93]

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[83] Dennis H. Leibowitz, *Media and Communication Statistics: May Review*, Donaldson Lufkin & Jenrette, June 8, 2000; Paul Kagan Assocs., Inc., *Cable and DBS Stocks: The Year in Review,* Cable TV Financial Databook 2000, Aug. 2000, at 97.

[84] Paul Kagan Assocs., Inc., *June 1999 Cable Financing Snapshot,* Cable TV Finance, June 30, 2000, at 8.

[85] *See* App. B, Tbl., B-7.

[86] *Id.*

[87] Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV,* Cable TV Finance, June 29, 2000, at 2.

[88] *Id.* The 1998 data may not agree with data for the same date(s) in our *1999 Report* because the data have been revised by the source.

[89] Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV,* Cable TV Finance, June 29, 2000, at 2.

[90] "New builds" are the construction of new cable plant where none existed before, primarily newly built homes.

[91] "Rebuilds" are improvements to existing systems that do not retain much of the old system plant and equipment. Instead, they consist of mostly new plant and equipment.

[92] "Upgrades" are improvements to existing cable systems that do not require the replacement of the entire existing plant and equipment.

[93] Paul Kagan Assocs., Inc., *Estimated Capital Flows in Cable TV,* Cable TV Finance, June 29, 2000, at 2.

An industry association notes that cable operators have invested nearly $36 billion in upgrades since enactment of the 1996 Act.[94]

34. Over the last several years, many of the large MSOs have invested more than a half a billion dollars each on maintenance, upgrades, rebuilds, and new services.[95] In the case of Time Warner, MediaOne, and Comcast, some or all of the expenditures in 1999 and the first half of 2000 were associated with commitments made by those MSOs pursuant to social contracts with the Commission.[96] For example, Time Warner reported capital expenditures of about $2.1 billion in 1999 and is expected to spend $1.8 billion in 2000.[97] Prior to its acquisition by AT&T, MediaOne spent approximately $1 billion in 1999 upgrading and rebuilding its systems.[98] Comcast reported cable-related capital expenditures of $490 million in 1999, and is expected to spend approximately $1.2 billion by the end of 2000.[99] AT&T's cable unit (without MediaOne) reported capital expenditures of $2.4 billion in 1999 and analysts expect AT&T's cable unit (including MediaOne) to spend nearly $5.2 billion in total capital in 2000, $3.7 billion of which is expected to go toward rebuilding and upgrading systems.[100] Adelphia reported capital

[94] NCTA Comments at 5.

[95] Cable operators continue to rebuild and upgrade their systems to increase channel capacity and to develop facilities for advanced services.

[96] The social contract with Time Warner committed that MSO to spend $4 billion on upgrades over a five-year period and to provide 100 percent of its subscribers with 550 MHz service and 50 percent of its subscribers with 750 MHz service. *Social Contract for Time Warner,* 11 FCC Rcd 2788 (1995). Time Warner's annual social contract implementation report indicates that the MSO is ahead of schedule and fully expects to meet or exceed all its obligations under the Social Contract by the end of 2000. Letter from Stuart F. Feldstein to Deborah A. Lathen, Chief, Cable Services Bureau, March 30, 2000, attaching Time Warner Cable Social Contract Progress Report 1999. The social contract with MediaOne commits that MSO to spend $1.7 billion on upgrades over a four-year period ending December 31, 2000, and also to provide 100 percent of its subscribers with 550 MHz service and 50 percent of its subscribers with 750 MHz service. *Social Contract for Continental Cablevision, Inc.* (subsequently MediaOne), 13 FCC Rcd 11118 (1996). By the end of 1999, MediaOne had already invested $3.58 billion during the contract period. MediaOne reports that it has surpassed its financial commitment under the social contract, and should exceed its original commitment by $2.67 billion by the end of 2000. Letter from Margaret A. Sofio, Vice President – Law, MediaOne Group, to Magalie Roman Salas, Secretary, Federal Communications Commission, March 31, 2000, attaching MediaOne Social Contract Annual Progress Report, 1999. The third MSO, Comcast reported that as of March 31, 2000, it continues to provide services and materials and perform upgrades in accordance with the terms of the Social Contract. *Social Contract for Comcast Cable Communications, Inc.,* 13 FCC Rcd 3612 (1997); Letter from Peter H. Feinberg, Attorney, Dow, Lohnes & Albertson, PLLC, to Magalie Roman Salas, Secretary, Federal Communications Commission, March 31, 2000, attaching Comcast Cable Communications 1999 Annual Social Contract Progress Report.

[97] Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Industry Review: The Marquis de Broadbandbury,* Morgan Stanley Dean Witter, Oct. 3, 2000, at 47 ("Morgan Stanley Dean Witter – Broadbandbury").

[98] Letter from Margaret A. Sofio, Vice President – Law, MediaOne Group, to Magalie Roman Salas, Secretary, Federal Communications Commission, Mar. 31, 2000, attaching MediaOne Social Contract Annual Progress Report, 1999.

[99] Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Comcast: Second-Quarter Results and Fiscal Year-End Preview,* Morgan Stanley Dean Witter, Aug. 16, 2000, at 4; Dennis Leibowitz, *Broadcasting, Cable and Wireless: May 1- May 5, 2000,* Donaldson, Lufkin & Jenrette, May 5, 2000, at 12.

[100] Richard Bilotti, Benjamin Swinburne, Gary Lieberman, and Marc Nabi, *1Q00 Review/2Q00 Preview: Party on at the Oligopoly Lounge,* Morgan Stanley Dean Witter, Apr. 4, 2000, at 34; Morgan Stanley Dean Witter – Broadbandbury at 65.

expenditures of approximately $850 million in 1999 and is expected to spend approximately $830 million by year-end 2000.[101] Cox reported capital spending of $1.3 billion in 1999 and $914 million in the first half of 2000.[102] Cox is expected to spend approximately $1.8 billion by year-end 2000.[103]

4. Other Performance Indicators

35. ***Cable System Transactions.*** The number of mergers, acquisitions, and exchanges between MSOs has fluctuated over the past few years. The number of systems sold decreased between 1998 and 1999 from 119 to 90 systems.[104] From January 2000 through June 2000, there were 22 transactions.[105] The total number of subscribers affected by system transactions and the average size of systems sold (measured by the number of subscribers per system) continues to vary greatly from year to year.

36. While the number of subscribers affected by system transactions decreased by almost 13 percent between 1998 and 1999, from 22.4 million to 19.5 million, the system size average increased 14 percent from approximately 190,000 subscribers per system sold in 1998 to approximately 217,000 subscribers per system sold in 1999.[106] Between January and June 2000, the number of subscribers affected by system transactions reached over 8.7 million with an average number of subscribers per system transaction at approximately 396,000, a half-year, per-system increase of over 80 percent.[107] The total dollar value of transactions increased between 1998 and 1999 from $64.6 billion at year-end 1998 to 75.8 billion at the end of 1999.[108] The total dollar value of transactions between January 2000 and June 2000 was approximately $55 billion.[109]

37. ***Overbuilding.*** Between 1995 and year-end 1999, competing franchises have been awarded for service to 369 communities in 34 states, with the potential to serve more than 18.5 million homes.[110] However, not all of the franchises awarded are currently operational. After a franchise is awarded, it can take a significant amount of time for the franchisee to build. An indication that an overbuilt system may be in operation occurs when an incumbent provider asks the Commission to determine that effective competition exists within its service area.[111] Such a determination exempts the cable operator from

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[101] Morgan Stanley Dean Witter – Broadbandbury at 47; Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Adelphia: Coudersport Cocktail*, Morgan Stanley Dean Witter, June 20, 2000, at 45.

[102] Morgan Stanley Dean Witter – Broadbandbury at 47 and 112.

[103] *Id.* at 112.

[104] This includes all systems bought and sold. *See* App. B, Tbl. B-8.

[105] Some transactions recorded on this table have been announced to the public but may not actually take place. Most recorded transactions do take place, although a few each year do not. *See* App. B, Tbl. B-8.

[106] *Id.*

[107] *Id.*

[108] *Id.*

[109] *Id.*

[110] Paul Kagan Assocs., Inc., *Cable TV Franchising Competition,* 1995-1999 *Franchise Awards*, Cable TV Financial Databook 2000, Aug. 2000, at 90-94. This includes 91 municipally operated cable systems as of year-end 1999. *See* Paul Kagan Assocs., Inc., *Municipal Cable Systems,* Cable TV Financial Databook 2000, Aug. 2000, at 95.

[111] 47 U.S.C. § 543 (l)(1); 47 C.F.R. § 76.905 (b).

regulation of its rates. As of July 2000, the Commission has granted petitions for determination of effective competition status on the basis of overbuild competition for approximately 330 individual communities.

38. As we have discussed in recent reports, the most notable overbuilders include Ameritech, now owned by SBC, Knology, RCN, and BellSouth.[112] In the *1999 Report*, we indicated that Ameritech, now SBC, had suspended deployment of new operations.[113] Reports indicate that SBC may now be seeking to sell its systems, though no final decision has been announced.[114] RCN had approximately 350,000 video subscribers and about 830,000 homes passed as of June 2000.[115] However, as with most overbuilders, RCN has not built out all of the homes for which it holds franchise awards. As of year-end 1999, RCN had an estimated 4.5 million homes under franchise and, as of June 2000, RCN held open video system ("OVS") certification for over 15 million homes.[116] In early 2000, Microsoft co-founder Paul Allen invested $1.65 billion in RCN through his holding company Vulcan Ventures, which also owns cable operator Charter Communications.[117] This investment represented the first significant investment in a cable overbuilder made by an incumbent franchised cable operator.[118] Knology reported approximately 97,000 video subscribers and 335,000 homes passed as of June 2000.[119] Analysts report that Knology has approximately 550,000 homes under franchise, and continues to seek new franchise agreements.[120] BellSouth currently holds 21 franchises to provide cable overbuild service, and is providing service in 12 of these franchise areas with approximately 1.4 million homes passed.[121]

39. As we have done in recent reports, we again provide a study of selected areas where incumbent cable operators face head-to-head effective competition.[122] Our case-by-case analysis shows that such competition often results in lower prices, additional channels, improved services, or additional non-video services.[123]

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[112] *1999 Report*, 15 FCC Rcd at 1037-42 ¶ 123-131. *See also* ¶¶ 121-129 *infra*.

[113] *1999 Report*, 15 FCC Rcd at 1037 ¶ 123. *See also* ¶¶ 121-129 *infra*.

[114] John M. Higgins, *Ameritech to Sell Cable*, Broadcasting & Cable, March 13, 2000, at 6; *See also* ¶¶ 121-129 *infra*.

[115] RCN Corp., *RCN Reports Strong Second Quarter Results* (press release), July 31, 2000.

[116] Dennis H. Leibowitz, *Current Trends in Broadcasting, Cable, Advertising, Publishing, and Entertainment, February/March 2000*, Apr. 18, 2000, at 10-11; RCN Corp., *RCN Reports Strong Second Quarter Results* (press release), July 31, 2000. *See also* ¶¶ 121-129 *infra*.

[117] RCN Comments at 6.

[118] Vulcan Ventures holds 96 percent of cable operator Charter Communications.

[119] Knology, Inc., *Knology Reports Continued Strong Growth in 2nd Quarter 2000* (press release), Aug. 10, 2000.

[120] Dennis H. Leibowitz, *Current Trends in Broadcasting, Cable, Advertising, Publishing, and Entertainment, February/March 2000*, Apr. 18, 2000, at 11.

[121] Bell South Comments at 2; *see also* ¶¶ 121-129 *infra*.

[122] *See* ¶¶ 213-234 *infra*.

[123] *See* ¶¶ 235-231 *infra*.

5. Provision of Advanced Broadband Services

40. Cable operators continue to upgrade their networks at a rapid pace in order to add new service offerings. This year the industry began to see the commercial deployment of such new service offerings as video-on-demand and increased trials of telephony over cable systems.

41. ***Digital Video Services***. As discussed in last year's *Report*, cable systems using digital signal transmission can provide customers with superior video picture quality,[124] increased programming options,[125] and more advanced service offerings[126] than customers can receive from cable systems using standard analog signal transmission.[127] Most major cable operators offer digital video services.[128] All operators offering digital video offer an increased number of basic and premium networks on a digital tier for an additional cost. Some are beginning to incorporate such advanced programming options as video-on-demand ("VOD") or near video-on-demand ("NVOD") into their digital tier. Such services allow subscribers to order pay-per-view movies at any time or on a time-staggered basis from a library of options. In addition, many cable operators are beginning to co-market personal video recorder ("PVR") services. As we discussed last year, PVRs provide VCR-like functionality including fast-forward, rewind, and pause.[129]

42. Subscriber reception of digital video requires a set-top device to decompress and decode incoming digital signals and to translate the signals into the analog signals used by current television sets. In addition, digital set-top boxes can allow cable operators to offer such additional services as PVRs.[130] Presently, cable operators provide set-top devices to the consumer for a monthly fee, though as we reported last year, the Commission anticipates that these devices also will become available to consumers through retail outlets.[131] However, certain difficulties have delayed retail distribution. The Commission

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[124] Digital video offers superior video picture quality because it is more likely to maintain signal integrity than analog video. As analog video signals travel from the cable operator to the subscriber, signals risk interference from equipment leaks or other hardware factors. Digital signals, on the other hand, are composed of discrete codes of information and carry error-correcting codes that can regenerate any lost data. Analog signals can be amplified, but little can be done to correct any distortion that may occur to the signal through transmission.

[125] In allocating bandwidth to digital video, an operator must determine the number of analog or otherwise unused channels to devote to digital video. In attempting to maximize the number of digital program channels per available bandwidth, operators have tried to maximize digital compression ratios.

[126] Advanced video service offerings enabled by digital signal transmission include electronic programming guides, video-on-demand, and interactive television ("ITV") which can include basic Internet-like functionality, such as real-time text messaging ("chat"), and e-mail.

[127] *See 1999 Report*, 15 FCC Rcd at 1002 ¶ 52.

[128] Jessica Rief Cohen and Nathalie Brochu, *Stocks Remained Under Pressure in 2Q00, Despite Solid Fundamentals*, Merrill Lynch, July 28, 2000, at 17 ("Merrill Lynch – 2Q00"). Analysts note that Cablevision has yet to roll out a digital product due to the strength of its advanced analog product, but that it is looking to rollout to 5,000 trial subscribers by the end of 2000. *Id.*

[129] *See 1999 Report*, 15 FCC Rcd at 1035 ¶ 119; *see also* ¶ 118 *infra*.

[130] *See* ¶¶ 118, 206 *infra*.

[131] *See 1999 Report*, 15 FCC Rcd at 1002-03 ¶ 53. Section 629 of the Communications Act requires that the Commission adopt regulations to assure the commercial availability of navigation devices. In 1998, the Commission adopted rules to implement Section 629. The purpose of Section 629 and the rules adopted thereunder is to assure consumers the opportunity to purchase navigation devices from sources other than their MVPD service provider. *See*

(continued...)

is currently assessing the effectiveness of its navigation devices rules to determine whether changes are required to meet the statutory objective of competition in the navigation devices market.[132] Cable Television Laboratories ("CableLabs") continues to work on its effort to resolve technical issues through its OpenCable project.[133] As reported last year, CableLabs was founded in 1988 by a consortium of cable operators in order to provide a clearinghouse for technological information for cable-related devices.[134] CableLabs created the OpenCable project in 1997 to enable distribution of digital set-top boxes competitively at the retail level by producing a set of interface specifications that define technical specifications.[135] OpenCable reached its initial goal of a common hardware platform in late June, 2000.[136] OpenCable now seeks to enable interoperable interactive services and applications that can be offered by any cable system in North America through a common "middleware" approach.[137] CableLabs has been evaluating responses to the OpenCable Software Request for Protocol ("RFP") issued in September 1999.[138]

43. As of year-end 1999, there were more than 4.5 million digital cable subscribers industry-wide.[139] As of June 2000, it is estimated that there were 5.5 million subscribers, an increase of 22 percent

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47 U.S.C. §549; *see also Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Report and Order, 13 FCC Rcd 14775 (1998); *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket 97-80, Order on Reconsideration, 14 FCC Rcd 7596 (1999).

[132] *Implementation of Section 304 of the Telecommunications Act of 1996 - Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Further Notice of Proposed Rule Making and Declaratory Ruling, 15 FCC Rcd 18199 (2000).

[133] CableLabs, *CableLabs Selects Three Firms to Serve as Primary Authors on Key OpenCable Software Specifications* (press release), Sept. 14, 2000.

[134] *1999 Report*, 15 FCC Rcd at 1004 ¶ 57; Cable Television Laboratories, Inc. ("CableLabs"), *What is CableLabs?*, http://www.cablelabs.com/start_here.

[135] *See* CableLabs, *CableLabs Selects Three Firms to Serve as Primary Authors on Key OpenCable Software Specifications* (press release), Sept. 14, 2000. *See also* CableLabs, *Open Letter to Companies Interested in Participating in OpenCable* (Request for Information), 1997. The goal of CableLabs is to attain interoperable digital set-top boxes manufactured by multiple vendors for sale at the retail level. This would allow consumers to purchase set-top boxes at retail outlets, rather than being required to lease the set top from the cable provider, as is current practice. Further, consumers will be able to use the same set top box even if they change cable provider. CableLabs, *CableLabs Selects Three Firms to Serve as Primary Authors on Key OpenCable Software Specifications* (press release), Sept. 14, 2000.

[136] CableLabs, *CableLabs Selects Three Firms to Serve as Primary Authors on Key OpenCable Software Specifications* (press release), Sept. 14, 2000.

[137] *Id.* "Middleware" is the operating software used on a set-top box device to allow applications to run. "Middleware" is similar to the operating systems on a personal computer.

[138] *Id.*

[139] Merrill Lynch – 2Q00 at 17.

in just six months.[140] Analysts predict that by year-end 2000 there will be between 8.5 million and 9 million digital video subscribers in the U.S.[141]

44. Cox is marketing its digital product in 16 markets and has approximately 560,000 subscribers.[142] In September 2000, Cox began to offer VOD service for selected customers in San Diego, California. [143] As of August 2000, Comcast provided approximately one million subscribers with digital cable service, and expects to offer that service to approximately 1.25 million customers the end of 2000.[144] Comcast offers digital video service to more than 90 percent of its subscribers.[145] With its premier digital service offering, "Comcast Digital Plus" Comcast offers customers a total of 250 channels with 45 premium channels.[146] Comcast anticipates that video-on-demand will be introduced in 2001.[147] As of June 2000, Adelphia had approximately 342,000 digital video subscribers with a target of 800,000 digital video subscribers by year-end 2000.[148] As of year-end 1999, Time Warner offered digital video service in 30 of its systems with nine more systems anticipated by year-end 2000.[149] Time Warner has 430,000 digital video subscribers.[150] As of March 31, 2000, AT&T had 1.9 million digital video subscribers, and analysts expect that by year-end 2000 AT&T will have over three million digital video customers.[151] Charter Communications offers digital cable in 23 states to an estimated 375,000

[140] *Id.*

[141] *Id. See also* Morgan Stanley Dean Witter – Broadbandbury at 14.

[142] Cox Communications, Inc., *Cox Communications Updates Investors on Successful Delivery of Advanced Broadband Communications Services* (press release), June 1, 2000; Cox Communications, Inc., *Cox Communications Reaches Milestone of 1 Million New Service Subscriptions* (press release), July 31, 2000.

[143] Cox Communications, Inc., *Cox Communications Launches Movies-On-Demand Service in San Diego* (press release), Sept. 25, 2000.

[144] Comcast Reply Comments at 7-8.

[145] *Id.* at 8.

[146] *Id.* at 7.

[147] *Id.* at 9.

[148] Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Adelphia: Second-Quarter Results and Fiscal Year-End Preview*, Morgan Stanley Dean Witter, Oct. 3, 2000, at 5-6; Dennis Leibowitz, *Broadcasting, Cable and Wireless: August 14-August 21, 2000*, Donaldson, Lufkin & Jenrette, Aug. 21, 2000, at 2.

[149] Paul Kagan Assocs., Inc., *Digital Cable Deployments,* The Cable TV Financial Databook 2000, Aug. 2000, at 84-89.

[150] *Id.*

[151] Laura Martin and Daniel P. Reingold, *Focus on Value: AT&T Cable*, Credit Suisse First Boston, June 21, 2000, at 7.

subscribers.[152] As part of its digital video service, Charter offers a video-on-demand product in some of its service areas, with broader deployment expected next year.[153]

45. ***Internet and High-Speed Data Services.*** Most American households still access the Internet using analog telephone dial-up modems at speeds of less than 56 kilobits-per-second ("kbps.")[154] As of year-end 1999, 98.2 percent of all Internet households were accessing the Internet using dial-up modems.[155] It is projected that telephone dial-up will remain the principal means of accessing the Internet until about 2004, when it is expected that only 49.7 percent of Internet households will use dial-up access, with the remaining 50.3 percent accessing the Internet through broadband facilities.[156]

46. As we reported in past years, the most popular way to access the Internet over cable broadband infrastructure is through the use of a cable modem and personal computer, with information transmitted over the cable system's wires.[157] Cable modems allow users to access the Internet at speeds that range from fifty to several hundred times faster than telephone dial-up.[158]

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[152] Paul Kagan Assocs., Inc., *Digital Cable Deployments,* The Cable TV Financial Databook 2000, Aug. 2000, at 84-89; Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Charter: Second-Quarter Results and Fiscal Year-End Preview*, Morgan Stanley Dean Witter, Aug. 16, 2000, at 2.

[153] Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Charter: Second-Quarter Results and Fiscal Year-End Preview*, Morgan Stanley Dean Witter, Aug. 16, 2000, at 3-4.

[154] The maximum speed of an analog telephone dial-up modem is currently 56.6 kbps. Many 56.6 kbps telephone-line modems can be purchased for as low as $29.99. *See* http://www.bestbuy.com. The typical cost of service from an Internet service provider is approximately $19.95 per month depending on the features of the service, though some services offer connection for as low as $9.95 a month. *See* http://www.earthlink.net; *see also* www.erols.com.

[155] Richard Bilotti, Benjamin Swinburne, Megan Lynch, Scott Babka, and Gary Lieberman, *Broadband/CATV Industry Review: Building the Digital Home Network*, Morgan Stanley Dean Witter, July 1, 2000, at 23 ("Morgan Stanley Dean Witter – Digital Home Network"). Last year, we reported that approximately 65 percent of Internet users access the Internet using analog telephone dial-up modems. This year, we report the percent of households that access the Internet as there are multiple Internet users in a single household using a shared mode of access. *See 1999 Report*, 15 FCC Rcd at 1003-04 ¶ 55.

[156] Morgan Stanley Dean Witter – Digital Home Network at 23. Broadband technologies include cable broadband, telephone company digital subscriber line ("DSL"), broadband wireless, and broadband satellite. By 2004, analysts expect 21.3 percent of households will access the Internet through cable broadband, 23.6 percent through DSL and 5.5 percent through wireless and satellite broadband technologies. *Id.* Broadband technologies allow users to access the Internet at much greater speeds than is available over traditional dial-up connections. *See 1999 Report*, 15 FCC Rcd at 1003-04 ¶¶ 55-56.

[157] *1999 Report,* 15 FCC Rcd at 1004 ¶ 56. The other means of accessing the Internet over cable broadband infrastructure is through the television using special equipment, as discussed in ¶ 54 *infra.* Internet access via a cable modem enables access to a wide array of services including Web browsing, e-mail, streaming audio and video, local content, and CD-ROM servers. *See 1999 Report*, 15 FCC Rcd at 1005 ¶ 58.

[158] Internet access over cable infrastructure offers a maximum downstream speed of 27 megabits-per-second ("Mbps"). However, because cable broadband network capacity is shared among users and hardware limitations, most connections are between one and ten Mbps. Sanford C. Bernstein & Co., Inc. and McKinsey & Company, Inc., *Broadband! A Joint Industry Study,* Jan. 2000, at 37-39 ("Bernstein/McKinsey - Broadband!").

47. CableLabs created the cable modem standard, DOCSIS (Data Over Cable Service Interface Specification) in an effort to ensure the interoperability and retail sale of cable modem technologies.[159] Equipment conforming to the DOCSIS standard is eligible to be CableLabs Certified.[160] There are now 38 cable modem suppliers whose products have been certified by CableLabs on the DOCSIS 1.0 standard.[161] According to CableLabs, certification for DOCSIS 1.1 has begun, although no modems have yet been DOCSIS 1.1 approved.[162]

48. Last year, we reported that as of July 1999, more than 32 million homes in the U.S. and Canada were passed by Internet access service through cable modem technology, with approximately one million U.S. subscribers.[163] As of September 2000, cable modem service was available to approximately 62 million homes in the United States and Canada with more than 3 million U.S. subscribers.[164]

49. Virtually all the major MSOs offer Internet access via cable modems in portions of their nationwide service areas.[165] Unlike high-speed access offered through a telephone company where the customer can select the ISP of his own choice, the cable Internet service provider ("ISP") is selected by the cable provider and offered to customers in that cable operator's individual regions.[166] Currently, most cable operators offer only one ISP to customers in a given system, although there has been a move recently within the industry to offer multiple ISPs to customers in a given cable system.[167] On September

[159] *See 1999 Report,* 15 FCC Rcd at 1004 ¶ 57.

[160] CableLabs Certified means that a modem complies with CableLab's cable modem specifications which ensures that it will interoperate with qualified cable systems worldwide. CableLabs, *CableLabs Certifies More Modems* (press release), Oct. 20, 2000.

[161] CableLabs, *CableLabs Certifies More Modems* (press release), Oct. 20, 2000. *See also* http://www.cabledatacomnews.com/oct00/oct00-1.html.

[162] CableLabs, *CableLabs Concludes Milestone Modem Certification Wave* (press release), Dec. 15, 2000.

[163] *See 1999 Report,* 15 FCC Rcd at 1005 ¶ 58.

[164] Kinetic Strategies, Inc., *Cable Modem Market Stats & Projections,* Cable Datacom News, http://www.cabledatacomnews.com/cmic/cmic16.html.

[165] *See* App. B, Tbl. B-9. This list is not exhaustive. The MSOs listed here are examples of cable operators currently providing Internet access to subscribers in some of their service areas.

[166] Most cable providers hold interest in the chosen ISP and also provide proprietary content to that ISP. *See Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities,* GN Docket No. 00-185, *Notice of Inquiry* ("*High-Speed Access Inquiry*"), 15 FCC Rcd 19287 ¶ 10 (2000).

[167] Currently, most cable operators only offer their customers one ISP. However, some MSOs are beginning to offer customers a choice among two or three ISPs. For example, Time Warner has recently concluded a deal with Juno to provide Juno ISP service in addition to Road Runner ISP services, subject to Time Warner's pre-existing obligations with Road Runner. Time Warner also plans to offer AOL's ISP service over its cable systems. And Comcast has announced a multiple ISP trial with Juno making Juno available over certain Comcast cable systems. *See* Juno Online Services, Inc./Time Warner, Inc., *Juno and Time Warner Reach Agreement to Offer Juno Express Over Time Warner Cable Systems* (press release), July 31, 2000; Time Warner, Inc., *America Online and Time Warner Announce Framework for Agreements to Offer AOL Service and Other ISPs on Time Warner Broadband Cable Systems* (press release), Feb. 29, 2000; Comcast Cable Communications, Inc., *Comcast and Juno Announce Multiple ISP Trial* (press release), Nov. 29, 2000; Today, *Leading Cable MSOs Quietly Shift Toward Open Access,* Communications Daily, Apr. 6, 2000, at 4-5. "[a]t least 7 of [the] 11 largest cable operators are looking at offering access to multiple ISPs on their high-speed broadband lines" *Id.*

28, 2000 the Commission released a *Notice of Inquiry* to determine what regulatory treatment, if any, should be accorded to cable modem service and the cable modem platform used in providing this service.[168] More specifically, the *Notice* seeks comment on the parameters the Commission should use in determining the appropriate level of access to cable networks for the provision of high-speed data services.[169] Road Runner and Excite@Home are still the leading cable ISPs.[170] As of August 2000, @Home reported two million cable modem subscribers and 32 million cable homes passed.[171] As of August 2000, Road Runner had one million subscribers.[172] Other ISPs offering access over cable infrastructure include High Speed Access Corporation, The ISP Channel, Earthlink, Internet Ventures Inc., RCN, Befera Interactive Cablenet, and Convergence.com.[173]

50. Among the MSOs offering high-speed Internet access are Cox, which as of June 1999, offered @Home service to approximately 5.6 million homes, and was serving about 320,000 subscribers.[174] Analysts expect that Cox will have about 460,000 subscribers by year-end 2000.[175] Comcast's @Home service offering is available to more than 4.4 million households, in more than 20 markets.[176] As of September 2000, Comcast had 250,000 subscribers with an additional 100,000 subscribers expected by year-end 2000.[177] As of June 2000, AT&T (including the newly acquired

[168] *See High-Speed Access Inquiry.*

[169] *Id.*

[170] As reported in our *1998* and *1999 Reports*, Excite@Home and Road Runner are technologically different from other cable ISPs in that each provide its own local network and own routing and caching (storage) servers, allowing for increased access to popular content. *See 1998 Report*, 13 FCC Rcd at 24316 ¶ 56 and *1999 Report*, 15 FCC Rcd at 1005 ¶ 59. In March 2000, AT&T gained majority control of Excite@Home over its partners Cox and Comcast. *See* AtHome Corp., *Excite@Home's Principal Cable Partners Extend Distribution, AT&T Assumes More Prominent Role* (press release), Mar. 29, 2000. Furthermore, through its merger with MediaOne, AT&T gained control over MediaOne's Time Warner Entertainment partnership interest in Road Runner which it is subsequently required to divest pursuant to Department of Justice decree. *See Department of Justice v. AT&T Corp. and MediaOne Group, Inc.*, Case No: 1.00CV01176 (May 2000). In February 2000, America Online Inc., filed an application with the Commission for the transfer of licenses in order to acquire Time Warner Inc. By acquiring Time Warner Inc., AOL would effectively acquire Time Warner's majority interest in Road Runner through the Time Warner Entertainment partnership. *See Applications of Time Warner Inc., and America Online, Inc. for Consent to Transfer of Control of Licenses*, CS Docket 00-30, Feb. 11, 2000. The Commission has not released its order in this proceeding.

[171] AtHome Corp., *Excite@ Home Surpasses 2 Million Broadband Subscribers* (press release), Aug. 23, 2000; AtHome Corp., *Excite@ Home Reports Second Quarter 2000 Results* (press release), July 19, 2000.

[172] Road Runner, *RoadRunner Hits A Million* (press release), Aug. 23, 2000.

[173] Kinetic Strategies, Inc., *Cable Internet Service Providers and Systems Integrators*, Cable Datacom News, http://www.cabledatacomnews.com/cmic/cmic5.html.

[174] Cox Communications, Inc., *Cox Communications Reaches Milestone of 1 Million New Service Subscriptions* (press release), July 31, 2000; Jessica Rief Cohen and Nathalie Brochu, *Stocks Remained Under Pressure in 2Q00, Despite Solid Fundamentals*, Merrill Lynch, July 28, 2000, at 100.

[175] Jessica Rief Cohen and Nathalie Brochu, *Stocks Remained Under Pressure in 2Q00, Despite Solid Fundamentals*, Merrill Lynch, July 28, 2000, at 100.

[176] Comcast Reply Comments at 9.

[177] *Id.* Comcast offers Expressnet high-speed data service in the systems it acquired from Jones in Arlington, Virginia, and Montgomery County, Maryland. *See* Kinetic Strategies, Inc., *Commercial Cable Modem Launches in North America,* Cable Datacom News, http://www.cabledatacomnews.com/cmic/cmic7.html.

MediaOne) had more than 690,000 @Home or Road Runner cable data subscribers.[178] Cablevision Systems Corporation offers @Home service to over 1.2 million homes in Connecticut, Long Island, and other areas around New York City, with more than 93,000 subscribers.[179] Charter offers Internet access through Charter Pipeline and High Speed Access Corporation.[180] As of June 2000, Charter had an estimated 144,000 high-speed data subscribers.[181] As of June 2000, Time Warner offers Road Runner Internet access service in ten states to over 10.5 million homes, with almost 890,000 subscribers.[182]

51. Although wireless and satellite broadband technologies continue to be deployed, telephone company DSL technologies remain the most significant competitors to Internet over cable.[183] ADSL, the most widely used form of DSL, offers data speeds from between 1.5 Mbps and 6.1 Mbps, less than cable's maximum speed of 27 Mbps.[184] As we reported last year, however, ADSL and DSL technologies in general have several advantages over cable broadband technology including guaranteed speed, which cable's shared network cannot offer.[185]

52. Currently, the number of DSL subscribers is significantly less than the number of cable broadband subscribers. By June 2000, there were 820,000 DSL subscribers compared to more than 2.3 million cable Internet access subscribers.[186] The rollout of DSL and other broadband technologies, however, is accelerating.[187] Analysts predict that by year-end 2000, there will be over 1.7 million DSL

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[178] Morgan Stanley Dean Witter – Broadbandbury at 68. AT&T's originally owned systems provide @Home service and those systems acquired from MediaOne offer Road Runner service.

[179] Cablevision Systems Corporation, *Cablevision Systems Corporation Reports Second Quarter Financial Results* (press release), Aug. 9, 2000.

[180] *See* App. B, Tbl. B-10.

[181] Merrill Lynch – 2Q00 at 66-67.

[182] *Id.* at 142.

[183] *See* Morgan Stanley Dean Witter – Digital Home Network at 23. *See also generally* Bernstein/McKinsey - Broadband! The acronym "xDSL" refers to a general class of digital subscriber line technologies. We report on ADSL because it is the most feasible for mass market deployment at this time. Another type of xDSL technology is VDSL, which is the fastest of xDSL technologies, performing at rates of up to 52 Mbps. VDSL is expensive to deploy and cannot function over sustained distances, thus it has not been widely deployed.

[184] *Second Inquiry Concerning the Deployment of Advanced Telecommunications Capability Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, FCC 00-290 (rel. Aug. 21, 2000) at ¶36 n. 47.

[185] *1998 Report*, 13 FCC Rcd at 24314 ¶ 52. Another advantage is the ability to offer customers simultaneous, high-speed Internet and voice or facsimile capabilities over a single telephone. Dedicated lines that run from the telephone subscriber's home to the central office can guarantee the user a constant, high-speed rate of data transmission and security line. This means that there is no decrease in data transfer speeds as more users get online, unlike cable's shared network. *See 1999 Report*, 15 FCC Rcd at 1007 ¶ 61.

[186] Telechoice Inc., *TeleChoice2Q00 DSL Deployment Summary*, at http://www.xdsl.com.

[187] *Second Inquiry Concerning the Deployment of Advanced Telecommunications Capability Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, FCC 00-290 (rel. Aug. 21, 2000) at Tbls. D-2 to D-4. *See also* Bernstein/McKinsey - Broadband! at 33.

subscribers, compared to only 445,000 subscribers by year-end 1999.[188] Some analysts predict that there will be more residential DSL subscribers than cable modem subscribers by 2002.[189]

53. While both cable Internet access providers and DSL operators offer services at around the same price, the speed of the services offered by DSL providers and cable providers vary. For example Qwest offers a service with downstream data transfer rates of up to 640 kbps for $19.95.[190] Verizon (formerly Bell Atlantic) offers a service with data transfer rates of 256 kbps to 640 kbps downstream and 90 kbps upstream for $39.95 per month.[191] By comparison, @Home cable Internet access is priced at $39.95-$44.95 per month and offers transfer speeds of up to 2.9 Mbps downstream and 128 kbps upstream.[192] However, as we reported last year, because bandwidth on cable networks is shared among users, most @Home users experience data transfer rates of approximately 128 kbps.[193]

54. In addition, as we have reported in the past, a small portion of cable Internet access is delivered through a television receiver rather than a personal computer.[194] Using a dedicated browsing device that communicates with the cable set-top box, these services typically do not provide complete access to the Internet, but provide such basic applications as e-mail, Web browsing, and "hyperlinking" technology.[195] These services are priced as low as $9.95 per month, depending on type or service.[196] Many of these services are now considered by industry analysts to be interactive television ("ITV") services, instead of Internet access providers.[197] Nationwide providers of such service include WebTV, Worldgate, and America Online which provides AOLTV.[198] Wink Communications offers a similar

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[188] *See* Morgan Stanley Dean Witter – Digital Home Network at 23.

[189] *Id.* One analyst estimates that by year-end 2002 there will be approximately 10.1 million DSL subscribers and 9.1 million cable subscribers. *Id.*

[190] Qwest, *MegaBit Select,* http://www.uswest.com.

[191] Bell Atlantic Corp., *About Speed,* http://www.bellatlantic.com/infospeed/more_info/about_speed.html. Bell Atlantic also offers a service with data transfer rates of 960 kbps to 1.6 Mbps downstream and 90 kbps upstream for $99.95 per month. Bell Atlantic offers another service for $189.95 a month offering transfer speeds of 4.48 Mbps to 7.1 Mbps downstream and 384 kbps to 680 kbps upstream. *Id.*

[192] At Home Corp., *The Facts About Speed,* at http://www.home.net/speed.

[193] *1999 Report,* 15 FCC Rcd at 1008 ¶ 63.

[194] *1998 Report,* 13 FCC Rcd at 24315 ¶ 54; *1999 Report,* 15 FCC Rcd at 1008 ¶ 64.

[195] *1999 Report,* 15 FCC Rcd at 1008 ¶ 64. Hyperlinking, in this context, is the technology that combines broadcast or cable television and telephone Internet connections to offer consumers access to supplemental information to television shows, one-button ordering, and the ability to play along with television shows when applicable.

[196] *See* WebTV, *Products, Classic, Pricing,* at http://www.webtv.com/products/classic/pricing.html. Web TV offers numerous levels of service ranging from $9.95 to $24.95. *See* WebTV at http://www.webtv.com

[197] *See* Spencer Wang, *Interactive Television,* ING Barrings Furman Selz, Sept. 2000.

[198] For an explanation of how the WebTV and Worldgate services operate, *see 1998 Report,* 13 FCC Rcd at 24315-6 ¶ 54. On June 19, 2000, AOL announced the launch of its ITV service, AOLTV. AOLTV is currently being test marketed in select cities (Phoenix, Sacramento, and Baltimore), though a larger deployment is planned. The AOLTV service includes e-mail, chat, instant messaging, Web browsing and enhanced interactive programming, which allows viewers to interact with programming in which the programmer has included interactive content. *See* America Online, *America Online Launches AOLTV* (press release), June 19, 2000; *see also Applications of America Online, Inc. and Time Warner, Inc. for Transfers of Control, CS Docket No. 00-30, ex parte* letter from George (continued...)

product marketed primarily as an interactive tool for the enhancement of multichannel video programming. Charter is planning to rollout an interactive television service called Diego Broadband which will provide interactive television and limited Internet functionality including e-mail, chat, and news and travel information.[199]

55. ***Telephone Services Offered by MSOs.*** Strategies for the deployment of telephone services by cable operators remains varied. Currently, only circuit-switched cable telephony is commercially deployed, but trials have begun for cable-delivered IP telephony.[200] MSOs, such as Cox and AT&T, continue to deploy circuit-switched cable telephony.[201] Others, like Cablevision and Comcast, are offering cable telephony on a limited basis, waiting instead for IP technology to become widely available before accelerating rollout of telephone services to customers.[202] Several MSOs, including Comcast and AT&T, are currently testing IP telephony, while others are planning such trials.[203] A few MSOs have not publicly announced any telephone strategy.[204]

56. Before IP telephony can be commercially deployed, however, there are still several technical obstacles. As we reported last year, CableLabs is managing a project, called PacketCable, aimed at identifying, qualifying, and supporting products that support Internet over cable-based multimedia services such as IP telephony.[205] On May 8, 2000, CableLabs announced the release of the final feature set for PacketCable residential IP voice service. [206] The feature set was designed to give guidance to vendors in their development of products.[207] The list of basic features represents the priority set of features that should be supported by IP voice equipment in order for cable operators to offer voice

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Vradenburg, III, Senior Vice President, Global and Strategic Policy, AOL, Inc., and Timothy A. Boggs, Senior Vice President, Global Public Policy, Time Warner, Inc., to Deborah Lathen, Chief, Cable Services Bureau, Sept. 29, 2000, at 4.

[199] Richard Bilotti, Benjamin Swinburne, and Megan Lynch, *Charter: Second-Quarter Results and Fiscal Year-End Preview*, Morgan Stanley Dean Witter, Aug. 16, 2000, at 3-4.

[200] As we have reported in past *Reports*, a cable telephony voice call and an IP telephony voice call both begin with special equipment that connects a household's twisted pair infrastructure with its cable infrastructure. Cable circuit-switched telephony, however, eventually turns the call over to traditional "circuit switched" processing, while IP telephony eventually turns the call over to the network of the Internet for IP processing. IP telephony processes voice telephone calls much like data are processed on the Internet; that is, digitized pieces of data are divided into discrete packets and are transported over the Internet following "the path of least resistance." This refers to the manner in which Internet data travels – data packets take any path that does not resist transfer. The path of least resistance is not always the shortest path, but it is the most reliable path for the mass transfer of data.

[201] *See* Merrill Lynch – 2Q00 at 23.

[202] *Id.*

[203] *Id.*

[204] *Id.*

[205] CableLabs, *Bukovinsky Selected to Blend CableLab's Packet Cable and Cable Modem Initiatives* (press release), Sept. 9, 1999.

[206] CableLabs, *CableLabs Issues Final PacketCable Feature Set for Residential IP Voice Service* (press release), May 8, 2000.

[207] *Id.*

services commercially to residential customers.[208] The list of extended features represents the complete set of features deemed necessary to sustain an ongoing IP-based voice service.[209] On July 21, 2000, CableLabs announced successful completion of its second round of PacketCable interoperability testing.[210] As a result of this testing, CableLabs released draft compliance test plans for PacketCable interface specifications.[211]

57. As of year-end 1999, AT&T (including MediaOne subscribers) led the industry in cable telephony deployment with over 133,000 cable telephone subscribers.[212] By June 2000, AT&T nearly doubled its subscribership to 234,000 cable telephone subscribers.[213] In February and March 2000, AT&T entered into agreements with Cablevision and Time Warner, respectively, which provide for joint marketing of AT&T-branded telephony service on Cablevision and Time Warner systems.[214] AT&T also signed an agreement with Insight Communications to co-market AT&T-branded all-distance telephony over Insight cable systems.[215] In addition, AT&T signed an agreement with Comcast for the provision of AT&T-branded telephony over Comcast systems.[216]

58. As of year-end 1999, Cox had over 100,000 subscribers and, by June 2000, Cox reported an estimated 167,000 cable telephone subscribers.[217] Comcast provides local telephone service primarily through telephony operations it has gained through system acquisitions.[218] As such, it currently serves the majority of its 12,000 circuit-switched telephony subscribers over the systems it acquired from Jones in Prince George's County, Maryland, and Alexandria, Virginia. However, Comcast offers a portion of its cable telephony service on its own systems in Ft. Lauderdale, Florida, and Baltimore, Maryland. [219]

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[208] *Id.*

[209] *Id.*

[210] CableLabs, *PacketCable Ends Round 2 of Testing, Releases Draft Compliance Test Plans* (press release), July 21, 2000.

[211] *Id.* PacketCable compliance test plans would establish specifications that a manufacturer would have to meet in order to make a PacketCable compliant IP telephony.

[212] Merrill Lynch – 2Q00 at 23.

[213] *Id.*

[214] AT&T Corp., *AT&T and Cablevision to Create High-Value Telecommunications Bundle for New York Metropolitan Area Customers* (press release), Feb 23, 2000; AT&T Corp., *AT&T and Time Warner Cable Announce Joint Marketing Agreement* (press release), Mar. 7, 2000. AT&T has begun to market its service with Cablevision, but has not moved forward in its agreement with Time Warner. *See* AT&T Corp., *AT&T and Cablevision Unveil Plans to Give Customers "Something Extra"* (press release), May 4, 2000.

[215] AT&T Corp., *Insight Communications and AT&T Broadband Finalize Agreement to Offer Local Telephone Service* (press release), July 24, 2000.

[216] Comcast Corp., *Two Companies to Collaborate in Offering* Telephony, (press release), May 16, 2000. Comcast's agreement with AT&T is contingent on AT&T partnering with at least two other MSOs. *Id.*

[217] Merrill Lynch – 2Q00 at 23.

[218] Comcast Comments at 10.

[219] *Id.*

Comcast is also conducting an IP telephony trial in New Jersey.[220] Cablevision offers residential telephone service on Long Island and in Fairfield County, Connecticut.[221] The service is a circuit-switched telephone offering over the Cablevision's cable network.[222] As of year-end 1999, Cablevision provided service to about 8,900 subscribers and, by June 2000, had 11,000 subscribers.[223] Charter has three trials planned for late 2000, with one trial using IP technology and two using traditional circuit-switched technology.[224]

59. ***Multi-Service Offerings***. To enhance their value to the end-user, over the last several years cable operators began to upgrade their networks in order to offer digital video, high-speed modem data services, and cable telephony.[225] As we reported last year, aside from adding the value of "one stop shopping" for the consumer, the financial impact of offering multiple services (i.e., video, voice, and data) can lower an operator's marginal risk.[226] Analysts believe that the technology now exists to allow cable operators to effectively provide multiple advanced residential broadband applications and that the equipment needed to fully utilize the capabilities of the upgraded network will be available by the end of the year. [227]

B. Direct Broadcast Satellite Services

60. Direct broadcast satellite ("DBS") service is a nationally distributed subscription video service that delivers programming via satellite to a small parabolic "dish" antenna located at the viewer's home. There are currently four companies licensed by the Commission to provide DBS service: DirecTV, EchoStar (marketed as the DISH Network), Dominion Video Satellite, Inc. (marketed as Sky Angel) and R/L DBS Company.[228] Of these, DirecTV, EchoStar and Dominion currently provide service.[229] Last year we reported a number of changes in ownership for the DBS industry.[230] This year the

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[220] *Id.* at 11.

[221] Cablevision Systems Corporation, *Cablevision Systems Corporation Reports Fourth Quarter and Full Year 1999 Financial Results* (press release), Feb. 17, 2000.

[222] *Id.*

[223] Cablevision Systems Corporation, *Cablevision Systems Corporation Reports Second Quarter Financial Results* (press release) Aug. 9, 2000; Cablevision Systems Corporation, *Cablevision Systems Corporation Reports Fourth Quarter and Full Year 1999 Financial Results* (press release), Feb. 17, 2000.

[224] Merrill Lynch – 2Q00 at 23.

[225] Morgan Stanley Dean Witter – Digital Home Network at 3.

[226] *1999 Report*, 15 FCC Rcd at 1011 at ¶ 68.

[227] Morgan Stanley Dean Witter – Digital Home Network at 3.

[228] R/L DBS holds a permit to construct a DBS system but has not launched a satellite or begun service. In August 1999, R/L DBS filed a petition requesting an extension of its build-out requirements in order to construct and launch a satellite for DBS service, 130 SAT-EXT-95. On December 28, 2000, the Commission granted a 36-month extension of time to R/L DBS. *See Petition of R/L DBS Company, L.L.C. For Extension of its Direct Broadcast Satellite Construction Permit*, Memorandum Opinion and Order, DA 00-2852 (rel. Dec. 29, 2000).

[229] Dominion was originally issued its DBS construction permit in 1982. Seventeen years later, on May 17, 1999, the Commission granted Dominion Video Satellite, Inc. authority to commence operation of a DBS service using an EchoStar satellite currently in orbit. *See Dominion Video Satellite, Inc. Application for Minor Modification of Authority to Construct and Launch and to Continue Construction and Launch of Planned Satellite at 61.5° W.L.* File

(continued...)

DBS ownership landscape has remained stable. However, it has been reported that General Motors, and its satellite subsidiary Hughes Electronics, is weighing the sale, spin-off, or other options for DirecTV, which it now owns.[231] In 1999, Hughes acquired PrimeStar's medium powered satellite business and customers.[232] The service was renamed "Primestar by DirecTV" and began a strategy of converting approximately 1.5 million former Primestar customers to its high powered DBS service.[233] On September 30, 2000, the company announced that it had converted approximately 1.2 million of the former Primestar by DirecTV customers and would discontinue the medium power service.[234]

61. ***Subscribership***. DBS is the principal competitor to cable television service with 12,987,000 subscribers as of June 30, 2000, a gain of almost three million subscribers, and an increase of over 28 percent since June 1999.[235] DBS's share of MVPD households has grown to over 15 percent nationally.[236]

62. DirecTV, which reported revenues of $2.1 billion for the first six months of 2000, is the nation's leading DBS service and the third largest distributor of multichannel video programming.[237] DirecTV had over 8.7 million subscribers as of June 2000, an increase of almost 15 percent from the 7.6 million customers reported as of June 1999.[238] These figures include 705,000 former "Primestar by

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No. 12-SAT-ML-97, IBFS File No. SAT-MOD-19961108-00132; Application *for Additional Time to Construct and Launch Direct Broadcast Satellites*, File No. 13-SAT-MP/ML-97, IBFS File No. SAT-MOD-19961108-00133; *Application for Launch Authority*, File No. 108-SAT-LA-97, IBFS File No. SAT- L/A-19970814-00074, Order and Authorization, 14 FCC Rcd 8182 (1999). *See also* http://www.skyangel.com. Dominion expects to launch its own satellite sometime in 2003.

[230] *1999 Report*, 15 FCC Rcd at 1011 ¶ 69.

[231] *Hughes on Market?*, Television Digest with Consumer Electronics, Sept. 11, 2000, at 6. *See also*, David Lieberman, *Murdoch Tries To Sweeten Bid For DirecTV*, USA Today, Dec. 7, 2000, at 1B. In a related transaction, Hughes sold its satellite manufacturing operations to the Boeing Company in early October 2000, for $3 billion. Proceeds from the sale are expected to be used primarily to fund the growth of its DirecTV, DirecPC broadband, and Spaceway businesses. *See Hughes Finalizes Sale of Satellite Operations to Boeing* (press release), Oct. 6, 2000.

[232] *Tempo Satellite, Inc., Assignor and DirecTV Enterprises, Inc., Assignee, Application for Consent to Assign Authorization to Construct, Launch and Operate a Direct Broadcast Satellite System Using 11 Frequencies at the 119 degrees W.L. Orbital Location, TCI Satellite Entertainment, Inc., Transferor And Primestar, Inc., Transferee, Application for Transfer of Control of Tempo Satellite, Inc. EchoStar Satellite Corporation And Directsat Corporation, Applications for Special Temporary Authority to Operate a Direct Broadcast Satellite System*, Order and Authorization, 14 FCC Rcd 7946 (1999).

[233] In previous years, we included a discussion of Primestar Partners, L.P. ("Primestar"), a medium-powered Ku-band Fixed Satellite Service ("FSS"), together with our discussion of high-powered Ku-band DBS providers. In May 1999, DirecTV acquired the assets of the now-defunct Primestar DTH service. *See 1998 Report*, 13 FCC Rcd at 24323 ¶ 61.

[234] *Hughes Announces DirecTV Subscriber Additions for the Third Quarter* (press release), Oct. 4, 2000.

[235] Appendix C, Table C-1. *See also* SBCA Comments at 7, Table 1. Current subscriber numbers from SkyREPORT at www.skyreport.com/skyreport.com/dth_us.htm.

[236] NCTA Comments at 9.

[237] Christopher Stern and Peter S. Goodman, *FCC Clears Purchase of Media One By AT&T*, Washington Post, June 6, 2000, at A01. *See also* DirecTV Comments at 11, http://www.hughes.com.

[238] DirecTV Comments at 10. Hughes expects to add over two million additional customers by the end of 2000. *Hughes Announces DirecTV Subscriber Additions for the Third Quarter* (press release), Oct. 4, 2000.

DirecTV" subscribers who were transitioned to DirecTV's high-powered DBS service during the first six months of 2000.

63. As of June 2000, EchoStar reported a 65 percent increase in subscribers, from 2.6 million in June 1999 to more than 4.3 million subscribers as of June 2000.[239] EchoStar is now the seventh largest MVPD in the United States.[240]

64. Dominion, under the brand name Sky Angel, is a self-described Christian and family oriented DBS service. Sky Angel offers 16 video and 16 radio channels for $9 a month.[241] While the company currently serves fewer than one million subscribers, it estimates that the universe of television households with an interest in its niche programming is upwards of 23 million and expects to add seven million new subscribers in the next seven years.[242] Because Dominion's transponders are currently located on an EchoStar satellite, Sky Angel subscribers may also receive DISH Network programming using the same 18-inch DBS antenna.[243] Dominion estimates that 60 to 65 percent of its subscribers also subscribe to DISH Network programming. In addition, many Sky Angel customers also subscribe to a local cable service.

65. SBCA, the national trade organization of the satellite television industry, notes that the period between July 1, 1999, and July 1, 2000, has been significant because of the consistent pattern of new subscriber acquisition by DBS providers.[244] SBCA states that DBS is gaining over 8,000 subscribers per day, with an annual subscriber growth rate of 31 percent.[245] In comparison, the annual subscriber growth rate for cable television is estimated to be between one and one and a half percent for 2000. Given this rate of increase for DBS, SBCA predicts that the DBS industry could reach 16 million subscribers by the end of 2000.[246]

66. DBS subscribership is growing in urban and suburban communities and is no longer viewed as a predominately rural service.[247] While DTH (both DBS and HSD service) penetration varies nationwide by state from a low of less than six percent to a high of almost 40 percent, the trend is toward

[239] EchoStar Comments at 1.

[240] Christopher Stern and Peter S. Goodman, *FCC Clears Purchase of MediaOne By AT&T; Divestitures Required For $58 Billion Deal*, The Washington Post, June 6, 2000, at 1. NCTA Comments at 3.

[241] Donald Matheson, *IMARK Signs Contract with Sky Angel Network*, Canada Stockwatch, April 10, 2000, at 1. Dominion expects to offer 20 channels of video programming by year-end 2000.

[242] Information from telephone conversation with Robert Johnson, CEO, Dominion, November 9, 2000.

[243] Sky Angel subscribers who wish to receive the Dish Network must subscribe separately to each service. The Dominion/EchoStar satellite sharing arrangement is technical in nature and not a joint venture or merger. Information from telephone conversation with Robert Johnson, CEO, Dominion, November 9, 2000.

[244] SBCA Comments at 1-2.

[245] *Id.* at 8-9, Table 3.

[246] *Id.* at 8.

[247] *See 1999 Report*, 15 FCC Rcd at 1016 ¶ 78.

growth in all geographic areas.[248] Forty-four states now have penetration of more than 10 percent, as compared to the 40 states reported in 1999; 24 states have more than 20 percent penetration, compared to 10 states in 1999; and three, mostly rural, states have more than 30 percent DTH penetration.[249] According to DirecTV, its subscribers are distributed evenly across the continental United States with approximately 50 percent residing in urban counties and 50 percent living in smaller, rural counties.[250] DirecTV also notes that approximately two-thirds of its new subscribers live in urban counties.[251]

67. In a related development, several very small and rural cable systems have used a variety of schemes to add digital channels, expand their program offerings, and take preemptive action against aggressive DBS marketing without costly expenditures such as headend upgrades.[252] These actions range from abandoning their cable plant and becoming authorized DBS dealers to forming partnerships whereby cable subscribers receive both cable service and satellite service from DBS overlay vendors such as HITS and WSNet.[253]

68. ***Availability of Local Broadcast Stations.*** This year's significant increase in DBS subscribership has been attributed in part to the authority granted to DBS providers in late 1999 to offer "local-into-local" service.[254] Previously, DBS providers were restricted by copyright law from retransmitting local broadcast stations into the local television markets they served. On November 29, 1999 the Satellite Home Viewer Improvement Act of 1999 ("SHVIA") was enacted, under which satellite providers are now allowed to retransmit local and network affiliate signals into their local markets.[255]

69. SBCA cites a Skytrends analysis of 13 designated market areas ("DMAs") where DirecTV and/or EchoStar have introduced local-into-local service. The study found that, between June and December 1999, prior to SHIVA, DBS operators added an average of 4,002 new subscribers per month within each DMA. For the post-SHIVA period (January-June 2000), DBS operators added an average of 5,706 new subscribers per month in each DMA, an increase of 43 percent over the pre-SHVIA period.[256]

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[248] DTH subscribership in Hawaii is approximately one percent. DBS service to Hawaii did not begin until April of 2000 when EchoStar introduced a 44-channel service offering to the islands. *See* State of Hawaii Reply Comments at 2; SBCA Comments at Appendix A.

[249] SBCA Comments at 6 and Appendix A; NCTA Comments at 10-11.

[250] DirecTV Comments at 13.

[251] *Id.*

[252] Ouray Cablevision in rural Colorado ceased cable service and provided each of its 1,000 customers satellite service through EchoStar. *See* John Higgins, *Switching to Satellite TV*, Broadcasting & Cable, July 17, 2000, at 26.

[253] Linda Moss, *Eking Out a Living,* Multichannel News, August 7, 2000, at 54.

[254] SBCA Comments at 5, 7-9.

[255] SHVIA was enacted as Title I of the Intellectual Property and Communications Omnibus Reform Act of 1999 ("IPACORA") (relating to copyright licensing and carriage of broadcast signals by satellite carriers, codified in scattered sections of 17 and 47 U.S.C.), Pub.L. No. 106-113, 113 Stat. 1501, 1501A-526 to 1501A-545 (Nov. 29, 1999).

[256] SBCA Comments at 8.

70. As of November 2000, DirecTV offers the local affiliates of ABC, CBS, NBC, and FOX in 38 markets for a package price of $5.99 a month.[257] DirecTV also provides a national PBS feed with every $5.99 local station package. DirecTV plans to offer local affiliates in additional markets by the end of 2000.[258] According to DirecTV, more than 40 percent of its customers in those markets subscribe to the local broadcast service and among new customers the subscription rate is 57 percent.[259] Similarly, EchoStar transmits a local network package to its subscribers in 34 markets for $4.99 a month and offers the national PBS feed as an option for an additional one dollar per month.[260]

71. The SHVIA also directed the Commission to undertake and complete rulemakings related to satellite carriage of broadcast stations within one year of enactment on November 29, 2000. As required by the SHVIA, the Commission established rules to implement mandatory carriage of broadcast signals ("must-carry"), retransmission consent, and program exclusivity with respect to satellite carriage of broadcast stations. Pursuant to the SHVIA, these rules are as comparable as possible to rules that govern cable carriage of broadcast stations. As further required by the SHVIA, the Commission revised the Individual Location Longley-Rice computer model used to predict subscriber eligibility to receive distant network stations and offered recommendations on the Grade B signal standard as it applies to such eligibility determinations.[261]

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[257] These markets are: Birmingham, Alabama; Phoenix, Arizona; Los Angeles, Sacramento/Stockton, San Diego, San Francisco/Oakland/San Jose, California; Denver, Colorado; Washington, D.C.; Miami/Ft. Lauderdale, Orlando/Daytona, Tampa/St. Petersburg/Sarasota, Florida; Atlanta, Georgia; Chicago, Illinois; Indianapolis, Indiana; Boston, Massachusetts; Baltimore, Maryland; Detroit, Michigan; Minneapolis/St. Paul, Minnesota; Kansas City, St. Louis, Missouri; Charlotte, Greensboro, Raleigh/Durham, North Carolina; New York, New York; Cincinnati, Cleveland, Ohio; Portland, Oregon; Philadelphia, Pittsburgh, Pennsylvania; Greenville, South Carolina; Memphis, Nashville, Tennessee; Dallas/Ft. Worth, Houston, San Antonio, Texas; Salt Lake City, Utah; Seattle/Tacoma, Washington; and Milwaukee, Wisconsin. *See Implementation of the Satellite Home Viewer Improvement Act of 1999: Broadcast Signal Carriage Issues*, CS Docket No. 00-96, Report and Order, FCC 00-417 (rel. Nov. 30, 2000) at Appendices D and E ("*SHVIA Signal Carriage Order*"); *see also* http://www.directv.com.

[258] DirecTV Comments at 12, footnote 25. The new markets listed in its comments are: Birmingham, Alabama, Greensboro, North Carolina, West Palm Beach, Florida, Columbus, Ohio, Austin and San Antonio, Texas. In these markets, the local channels will be received from the DirecTV satellite at 119 degrees WL and will require the use of a multi-satellite capable system. *See* http://www.directv.com/press/.

[259] DirecTV Comments at 13.

[260] EchoStar's DISH Network currently offers local channels in 34 metro areas, including: Phoenix, Arizona; Los Angeles, Sacramento/Stockton, San Diego, San Francisco/Oakland/San Jose, California; Denver, Colorado; Washington, D.C.; Miami/Ft. Lauderdale, Orlando/Daytona, Tampa/St. Petersburg/Sarasota, Florida; Atlanta, Georgia; Chicago, Illinois; Indianapolis, Indiana; Boston, Massachusetts; Detroit, Michigan; Minneapolis/St. Paul, Minnesota; Kansas City, St. Louis, Missouri; Charlotte, Raleigh/Durham, North Carolina; Albuquerque, New Mexico; New York, New York; Cincinnati, Cleveland, Ohio; Portland, Oregon; Philadelphia, Pittsburgh, Pennsylvania; Greenville-Spartanburg, South Carolina; Nashville, Tennessee; Dallas/Ft. Worth, Houston, San Antonio, Texas; Salt Lake City, Utah; and Seattle/Tacoma, Washington. *See SHVIA Signal Carriage Order. See also* http://www.dishnetwork.com/ and http://www.skyreport.com/skyreport/local.htm.

[261] *Implementation of the Satellite Home Viewer Improvement Act 1999: Broadcast Signal Carriage Issues, Retransmission Consent Issues*, CS Docket Nos. 00-96, 99-363, Report and Order, FCC 00-417 (rel. Nov. 30, 2000); *Technical Standards for Determining Eligibility For Satellite-Delivered Network Signals Pursuant To the Satellite Home Viewer Improvement Act*, ET Docket No. 00-90, Report, FCC 00-416 (rel. Nov. 29, 2000); *Implementation of the Satellite Home Viewer Improvement Act of 1999: Application of Network Non-Duplication, Syndicated Exclusivity, and Sports Blackout Rules To Satellite Retrasmissions of Broadcast Signals*, CS Docket No. 00-2, Report and Order, FCC 00-338 (rel. Nov. 2, 2000); *Implementation of the Satellite Home Viewer Improvement Act of 1999,* (continued...)

72. ***DBS versus Cable.*** Several commenters note that with the passage of SHVIA and the growth in subscribership, many of the differences between DBS and cable service have been eliminated.[262] Others contend, however, that significant differences remain between the two services and they should not yet be considered substitutes.[263]

73. In its comments, AT&T states that because DBS has a 15.8 percent share of the MVPD market, with subscriber growth 20 times as high as cable, plus exclusive sports programming and the ability to carry local signals under SHVIA, it is now a powerful presence in the marketplace that the Department of Justice has found to be a substitutable service for cable.[264] On this basis, AT&T requests that the Commission relax or eliminate existing regulations and avoid new regulations for cable.

74. Like AT&T, NCTA points to the rising MVPD market share of DBS (15.25 percent according to their estimates) as evidence that DBS providers are competitive alternatives to cable in every market.[265] NCTA further states that there is evidence of a nationwide competitive threat from DBS to cable that has spurred cable operators to compete vigorously for subscribers. NCTA also points to offers of free equipment and free installation from DBS providers that have decreased high up-front costs and DBS monthly subscription fees comparable to those of cable.

75. In contrast, EchoStar states that effective competition has yet to arrive in the MVPD marketplace, although it concedes that DBS is perhaps the only true alternative to cable.[266] According to EchoStar, increases in DBS subscriber counts have not been accompanied by comparable decreases in the number of cable subscribers or cable's market share. Therefore, the continuing market power of incumbent cable operators leads to unfair advantages including preferential access to video programming.

76. Others contend that the failure of DBS to restrain cable rates demonstrates that the two industries are competing for "a thin layer of affluent customers.... not necessarily swayed by incremental price differences."[267] Finally, American Broadband notes a recent GAO study that suggests that DBS does not exert significant pricing pressure on cable service prices and has not brought about the level of competition between DBS and cable to conclude that the program access rules are no longer needed.[268]

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Enforcement Procedures for Retransmission Consent Violations, Order, 15 FCC Rcd 2522 (2000); *Implementation of the Satellite Home Viewer Improvement Act of 1999, Retransmission Consent Issues: Good Faith Negotiation and Exclusivity*, CS Docket No. 99-363, First Report and Order, 15 FCC Rcd 5445 (2000).

[262] AT&T Comments at 3; NCTA Comments at 3.

[263] American Broadband Comments at 8-9; EchoStar Comments at 2.

[264] AT&T Comments at 2-5. AT&T refers to the Department of Justice's 1998 decision to block Primestar Inc., from acquiring a high powered DBS slot owned by MCI and News Corp. Primestar was owned by a group of companies, including the largest cable MSOs at that time. The decision notes that "consumers view [cable and DBS] as similar and to a large degree substitutable." *See* Complaint, *United States v. Primestar, Inc.* No. 1:98CV01193 (D.D.C. 1998) at 63.

[265] NCTA Comments at 3.

[266] EchoStar Comments at 1.

[267] Christopher Stern, *Cable's Satellite Wars*, Washington Post, Aug 13, 2000, at H1.

[268] American Broadband Comments at 8. GAO Report to Congressional Requestors, *The Effect of Competition from Satellite Providers on Cable Rates*, July 2000 ("GAO Study").

GAO, which studied 1998 cable rates, found that greater DBS penetration was correlated with somewhat higher cable rates and that the presence of a nonsatellite competitor, such as another cable company or a wireless cable operator, was more likely to result in lower cable rates.[269]

77. ***Broadband Satellite Services.*** As with cable operators, satellite providers are developing ways to bring advanced services to their customers. Currently, DirecTV offers a satellite-delivered high-speed Internet access service with a telephone return path called DirecPC and a dual functioning (video and data) DBS antenna called DirecDUO.[270] Future services aim for true two-way interactivity by eliminating the telephone return path.

78. A number of video providers and programmers have financial interests in WildBlue (formerly called iSKY), a satellite company that intends to use Ka-band spectrum and spot-beam technology to deliver two-way, high-speed data to residential markets beginning in late 2001.[271] WildBlue plans to market its Ka-band Internet service for $35-$40 per month and its set-top box for $200.[272] EchoStar also has a 17.6 percent stake in Starband (formerly called Gilat-2-Home). On November 7, 2000, StarBand Communications launched a high-speed Internet service using a single antenna capable of receiving EchoStar's Dish Network video signal as well as two-way, high-speed data.[273] Starband is a joint venture whose partners include Israel-based Gilat Satellite Networks, EchoStar and Microsoft.[274]

79. In 1999, America Online ("AOL") and DirecTV partnered to develop a set-top box to provide interactive and "web surfing" Internet services. The DirecTV/AOL partnership will soon begin marketing its "AOL via DirecPC" broadband service. The company expects to start the service using a two-way connection using Ku-band satellites.[275] By 2003, DirecTV plans to switch to Ka-band technology for its new "Spaceway" service, which would offer faster connections than DirecPC's Ku-band service.[276] DirecTV also formed partnerships with the TiVo Company to develop a PVR/set-top box with personalized television functions and with Wink Communications to provide interactive multimedia services.[277] Despite the rollout of DSL and cable modems, analysts predict there will be a market for

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[269] GAO Study at 7. The study found several demand, cost, and market structure factors were associated with cable rates.

[270] DirecPC uses a slightly larger dish antenna to view a FSS satellite in addition to the DBS satellite. *See* Hughes Network Systems, http://www.direcpc.com.

[271] WildBlue's investors include EchoStar, Liberty Media Group, TV Guide, Kleiner Perkins Caufield & Byers, TRW and TeleSat. *See* www.wildblue.com. *See also Satellite Broadband Company Chooses WildBlue Brand Name* (press release), Aug 14, 2000; Price Colman, *The Highway to High Speed*, Broadcasting & Cable, May 8, 2000, at 30.

[272] *DBS Service Planned.(EchoStar And iSKY To Offer 2-Way Wireless Broadband Services)*, Television Digest, April 3, 2000, at 9.

[273] *Starband Launches Two-Way Satellite Internet Service,* Communications Daily, Nov. 7, 2000.

[274] Price Colman, *The Highway to High Speed*, Broadcasting & Cable, May 8, 2000, at 32.

[275] Monica Hogan, *DBS Providers Set Two-Way Broadband Plans,* Multichannel News, April 17, 2000, at 53.

[276] *Id.*

[277] Carmel Group, *Interactivity by Satellite and Cable: The Future of TV?*, DBS Investor, Sept. 1999, at 16.

broadband satellite services principally in the estimated 20 to 30 million homes in rural and suburban areas that may be unable to receive cable or DSL for the foreseeable future.[278]

80. ***Terrestrial Reuse of DBS Spectrum.*** In 1998, the Commission received a proposal by Northpoint Technologies, Inc. to reuse the direct broadcast satellite band at 12.2-12.7 GHz for a terrestrial service that would deliver multichannel video and one-way data services.[279] On November 29, 2000, the Commission concluded, among other things, that a new terrestrial multichannel video distribution and data service ("MVDDS") can operate in the 12.2-12.7 GHz band with incumbent broadcasting satellite services (including DBS) and voted to allow MVDDS services.[280] Although the incumbent DBS licensees have agreed internationally to a sharing criterion to allow some additional satellite operations in the band, they opposed increased usage by terrestrial operations.[281] According to SBCA, permitting such frequency sharing would cause harmful interference and service disruption for DBS customers.[282] Northpoint has performed three sets of experimental testing that demonstrate that its technology can share spectrum with DBS and the DBS licensees have performed similar tests that refute Northpoint's claims of no interference.[283] The Commission decision requires that MVDDS services operate on a "non-harmful interference basis" with the incumbent DBS services.[284]

81. ***DBS Public Interest Obligation.*** Pursuant to the Cable Act of 1992, DBS service providers must set aside a percentage of channel capacity for noncommercial programming of an educational or informational nature.[285] The effective date for implementation of the DBS public interest obligations was

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[278] Price Colman, *The Highway to High Speed*, Broadcasting & Cable May 8, 2000, at 32.

[279] *See Non-Geostationary Satellite Services Proposed In the Ku-Band; Expanded Services to DBS Subscribers Also Considered*, General Action, ET Docket 98-206, Report No. GN 98-13 (1998). The Commission has also proposed to allow non-Geostationary Orbit Fixed Satellite Services (NGSO FSS) in this frequency range. In addition to its participation in ET Docket 98-206, Northpoint and its affiliates (under the name Broadwave USA) have filed license applications for the 12.2-12.7 GHz band covering the United States and competing terrestrial applications have been filed by Pegasus Communications and Satellite Receivers, Inc.

[280] The Commission also adopted a Further Notice of Proposed Rulemaking seeking comment on technical and service rules for licensing the new services. *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency With GSO and Terrestrial Systems in the Ku-Band Frequency Band; Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Licensees and Their Affiliates; and Applications of Broadwave USA, PDC Broadband Corporation, and Satellite Receivers, Ltd., to Provide A Fixed Service in the 12.2-12.7 GHz Band*, ET Docket No. 98-206, RM-9147, RM-92-45, First Report and Order and Further Notice of Proposed Rulemaking ("*New Fixed Satellite Services Order*"), FCC 00-418 (rel. Dec. 8, 2000).

[281] Paige Albiniak, *DBS Battles Northpoint*, Broadcasting & Cable, May 1, 2000, at 20. John M. Higgins, *The Next Big Thing?*, Broadcasting & Cable, August 7, 2000, at 23-30.

[282] SBCA Comments at 3, Appendix D.

[283] *See New Fixed Satellite Services Order.*

[284] *Id.*

[285] On November 19, 1998, the Commission adopted rules implementing Section 25 of the 1992 Cable Act, which requires that DBS providers must reserve four percent of their channel capacity exclusively for use by qualified programmers for noncommercial programming of an educational or informational nature. Channel capacity is determined annually by calculating the average number of channels available for video programming on all satellites licensed to the provider during the previous year. *See Implementation of Section 25 of the Cable Television*

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December 15, 1999.[286] EchoStar currently offers 19 channels of public interest programming under this provision of the Commission's rules.[287] DirecTV carries nine noncommercial networks under these rules.[288]

82. The public interest programming being offered by DBS consists of national channels, rather than the mostly locally produced content offered on cable public, educational, and government ("PEG") channels.[289] Nevertheless, members of the public interest community are reportedly "disappointed" that the Commission's rules allow DBS operators to select the public interest programmers and the DBS industry's practice of limiting public interest programmers to short-term contracts.[290]

C. Home Satellite Dishes

83. The home satellite dish ("HSD") or C-band segment of the satellite industry continues to experience a decline in subscribership. Between June 1999 and June 2000, C-band subscribers fell from 1,783,411 to 1,476,717, an average loss of 840 subscribers per day.[291] In November 1999, Netlink Group, the leading provider of C-band programming sold its subscriber lists to EchoStar for $10 million, thus enabling EchoStar to solicit Netlink's subscribers. Netlink will receive a cash payment if any of its former subscribers actually converts to EchoStar.[292]

84. Nevertheless, many current C-band subscribers remain loyal to the service and a small number of new subscribers has been added.[293] For example, Paul Dowgewicz, a consumer who filed comments in this proceeding, states that he switched from cable to C-band because of the limited number

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Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Public Interest Obligations, MM Docket No. 93-25, Report and Order ("*DBS Public Interest Order*"), 13 FCC Rcd 23254 (1998).

[286] *DBS Public Interest Order*, 13 FCC Rcd at 23309-10 ¶136; *see also* 47 C.F.R. § 100.5(c)(7). EchoStar initially failed to meet the deadline to begin public interest programming and was eventually fined $11,000 for non-compliance with Commission rules. *See American Distance Education Consortium*, Declaratory Ruling and Order, 14 FCC Rcd 19976 (1999). *See also EchoStar Satellite Corporation, Licensee of Direct Broadcast Satellite System*, File No. EB-00-1H-0014, NAL/Acct No. X32080009 JJS, Notice of Apparent Liability for Forfeiture, 15 FCC Rcd 5557 (2000).

[287] EchoStar, *DISH Network Satellite Television Adds Five New Public Interest Channels* (press release), Dec. 19, 2000. *See also* www.echostar.com.

[288] *DBS Shows Diversity*, Television Digest, Sept 4, 2000, at 4. *See also* www.directv.com.

[289] Among DBS public interest offerings are Free Speech TV, Hispanic Information Telecommunications Network, WorldLink TV, Eternal World TV, Good Samaritan Network, Trinity Broadcasting, Brigham Young University, C-SPAN, NASA-TV, Northern Arizona University, The Research Channel, Clara+Vision, Inspirational Life, and StarNet. *See Competition to Cable*, Warren's Cable Regulation Monitor, September 11, 2000.

[290] *DBS Shows Diversity*, Television Digest, Sept 4, 2000, at 4.

[291] SBCA Comments at 7-8, Tables 1 and 3.

[292] Art Durbano, *50 Reasons Why Bigger is Better*, Satellite Orbit, March 2000, at 15.

[293] SBCA Comments at 6.

of channels on his cable system, the greater variety of program types on C-band, and the ability to purchase C-band programming on a per channel basis.[294]

85. It is expected that C-band will continue as a niche service for some time. As noted in the *1999 Report*, many existing HSD transponder leases extend past 2010 and within the last year, six new satellites have been launched to replace older satellites.[295] In addition, new, digital equipment for C-band continues to be developed and made available to subscribers.[296]

D. Multichannel Multipoint Distribution Service

86. MMDS systems, often referred to as "wireless cable," transmit video programming and other services to subscribers through 2 GHz microwave frequencies, using Multipoint Distribution Service ("MDS") and leased excess channel capacity on Instructional Television Fixed Service ("ITFS") channels.[297] An MMDS system must have a line-of-sight path between the transmitter or signal booster and the receiving antenna. Because of capacity limitations when using analog signals, MMDS operators can offer a maximum of 33 microwave channels available in each market, including 13 MDS channels and 20 ITFS channels. Digital technology significantly increases the channel capacity, improves picture and audio quality, and makes two-way services, such as high-speed Internet access and telephony, possible.

87. As we reported last year, the MMDS industry provides competition to the cable industry for MVPD service only in limited areas.[298] Sprint Corporation and MCI WorldCom, Inc. have acquired most of the larger MMDS operators, with the intent of using the acquired frequencies to provide two-way non-video communication services, and have begun trials of this service.[299] WCA points out, however, that MMDS provides the only local competition to many cable operators.[300] Such competition is particularly important, WCA indicates, in "...smaller markets and rural areas where cable overbuilds and/or DBS 'local into local' service [i.e., offering local over-the-air broadcast stations to subscribers] may not be available for the foreseeable future."[301] Thus, while it appears that most MMDS licenses will not be used in the future to compete in the MVPD market, in some areas, MMDS constitutes the only competition to

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[294] Dowgewicz Comments at 1-2. Mr. Dowgewicz expressed concern, however, that HSD programming is increasingly being sold in bundled packages of programming thereby eliminating one of the service's advantages.

[295] *1999 Report*, 15 FCC Rcd at 1019 ¶ 84. Art Durbano, *50 Reasons Why Bigger is Better*, Satellite Orbit, March 2000, at 16.

[296] SBCA Comments at 6. Althought most C-band satellite receivers are analog and do not receive digital signals, C-band customers may buy a digital decoder/receiver in order to access and view digital programming.

[297] *Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, MM Docket. No. 94-131 and PP Docket No. 93-253, Report and Order, 10 FCC Rcd at 9589, 9593 ¶ 7 (1995); *1996 Report*, 12 FCC Rcd at 4386 ¶ 51 n.152.

[298] *1999 Report*, 15 FCC Rcd at 1019-20 ¶ 86.

[299] *See* ¶ 89 *infra*.

[300] WCA Comments at 2.

[301] *Id.*

incumbent cable operators. The MMDS industry is currently transitioning from offering video programming to offering data services.[302]

88. ***MMDS Households and Subscribership.*** In 1999, the number of homes with a serviceable line-of-sight to an MMDS operator's transmission facilities was reported to be 62,500,000, and the number of homes actually capable of receiving an MMDS operator's signal ("homes seen") was reported to be 35,750,000.[303] WCA states that there are approximately one million MMDS video subscribers.[304] Other estimates indicate, however, that the number of MMDS subscribers has dropped to approximately 700,000.[305] At least one company, Nucentrix, is combining its MMDS spectrum with DBS service to offer a broader array of video services,[306] as we reported last year.[307] BellSouth continues to operate its MMDS video systems, as we report in more detail below.[308] The combination of these trends indicates that companies will continue to use MMDS spectrum to provide video services, but only in limited areas, especially rural ones. It appears that most MMDS spectrum will eventually be used to provide high-speed data services.

89. ***Interexchange Carrier ("IXC") Investment.*** We previously reported on MCI WorldCom's and Sprint's purchases of a significant number of MMDS operators.[309] Over this past year, both MCI WorldCom and Sprint have moved forward with their plans to offer two-way high-speed Internet access over the MMDS licenses they acquired. MCI WorldCom began trials of the high-speed service in five cities (Boston, Jackson, Mississippi, Baton Rouge, Memphis,[310] and Dallas-Fort Worth[311]) and has filed

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[302] *See Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions,* 13 FCC Rcd 19112 (1998), *recon.*, 14 FCC Rcd 12764 (1999), *further recon. pending. See also Mass Media Bureau Multipoint Distribution Service and Instructional Television Fixed Service Applications Tendered for Filing*, Public *Notice,* Report No. 148 (November 29, 2000) in which the Mass Media Bureau listed over 2200 applications for MDS/MMDS and ITFS that were tendered for filing during the initial two-way filing window pursuant to *Mass Media Bureau Provides Further Information on Application Filing Procedures and Announces Availability of Electronic Filing for Two-Way Multipoint Distribution Service and Instructional Television Fixed* Service, Public *Notice,* 15 FCC Rcd 11466 (2000).

[303] Paul Kagan Assocs., Inc., *Wireless Cable Sub Count and Revenue Projections, 1998-2009*, Wireless/Private Cable Investor, July 13, 1999, at 4-5. (Paul Kagan Associates did not update this number for 2000.) The number of homes with a "servicable line of sight" counts all homes which an MMDS operator is licensed to serve within a particular license area, regardless of technical limitations such as signal strength or blockage by terrain. The number of "homes seen," on the other hand, is the number of homes that MMDS operators have the technical ability to serve. For more discussion, *see 1997 Report*, 13 FCC Rcd at 1081 ¶ 74, n. 272.

[304] WCA Comments at 3 *citing* Paul Kagan Assocs., Inc., *Wireless Cable – Private Cable Investor*, Nov. 5, 1999, at 6.

[305] Paul Kagan Assocs., Inc., *Basic Cable Network Economics, 1995-2010*, Cable Program Investor, June 16, 2000, at 7.

[306] *See, e.g.,* http://www.nucentrix.com/site/television/products/index.html.

[307] *1999 Report*, 15 FCC Rcd at 1020 ¶ 88.

[308] *See* ¶ 121 *infra.*

[309] *1999 Report*, 15 FCC Rcd at 1020-21 ¶ 89.

[310] MCI WorldCom, *MCI Worldcom To Test 'Fixed Wireless' Service In Boston* (press release), Mar. 27, 2000. One press report indicates that MCI Worldcom began commercial service in Memphis. TR Daily, *WorldCom Begins Rollout of MMDS Service*, Nov. 15, 2000, at 9.

applications with the Commission to offer the service in more than 60 cities.[312] Sprint has launched service in eight areas (Phoenix, Tucson, Houston, Silicon Valley, Denver, Colorado Springs, Salt Lake City, and Wichita, Kansas)[313] and has filed applications to offer service in 45 additional markets, with a potential reach of 24.8 million homes.[314]

90. ***Barriers to Competition.*** BellSouth has indicated barriers to competition for MMDS operators. First, BellSouth contends that the consolidation and clustering of cable systems gives cable MSOs leverage vis-à-vis cable programming networks and broadcast networks, making them less willing to sell programming to cable's competitors.[315] BellSouth further maintains that this consolidation and clustering increases the ability of vertically integrated MSOs to avoid program access obligations by delivering programming terrestrially,[316] and increases incumbent cable operators' leverage vis-à-vis non-vertically-integrated programming networks.[317] BellSouth therefore requests that the Commission extend the existing program access rules beyond the 2002 sunset, and that the Commission: (1) recommend that Congress eliminate the non-vertical integration and terrestrial delivery exceptions to the statute; and (2) either require strict justification of volume discounts or ask Congress to clarify the language in the statute.[318]

E. Satellite Master Antenna Television Systems

91. SMATV systems, also known as private cable operators, are video distribution facilities that use closed transmission paths without using any public right-of-way. [319] SMATV systems are usually satellite-based and distribute television signals to households located in one or more adjacent buildings, primarily serving urban and suburban multiple dwelling units ("MDUs").[320] In general, SMATV

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[311] MCI WorldCom, *MCI Worldcom Adds Dallas To 'Fixed Wireless' Service Trials* (press release), Apr. 5, 2000.

[312] WorldCom, *WorldCom Seeks Broadband Fixed Wireless Authority* (press release), Aug. 14, 2000.

[313] Sprint, *Sprint Powers Wichita's Residential and Small Business Customers With New Broadband Wireless Service* (press release), Dec. 5, 2000.

[314] KaganBROADBAND, *Sprint Takes Run at Bigger MMDS Footprint*, Aug. 24, 2000, at 1.

[315] BellSouth Comments at 3-5.

[316] *Id.* at 5-6. *See also* WCA Comments at 8-10 (particularly noting cable operators' successes at denying regional sports programming from competitors).

[317] BellSouth Comments at 6.

[318] *Id.* at 7-9. *See also* WCA Comments at 4-8 (requesting a thorough inquiry into the effects of a sunset) and 13-14.

[319] 1996 Act, sec. 301(a)(2), 47 U.S.C. § 522(7). SMATV systems do not use public rights-of-way, and thus fall outside of the Communications Act's definition of a cable system.

[320] SMATV providers receive and process satellite signals directly at an MDU or other private property with an on-site headend facility consisting of receivers, processors and modulators, and distribute the programming to individual units through an internal hard-wire system in the building. Regulatory changes in 1991 made 18 GHz technology available for the point-to-point delivery of video programming services, allowing operators to free themselves from large networks of coaxial or fiber optic cable and amplifiers. Operators using this technology are known as enhanced SMATV operators, and because of efficiency savings, they are more competitive with cable operators than standard SMATV operators. *1999 Report*, 15 FCC Rcd at 1022 ¶ 92.

operators are subject to less regulatory oversight than traditional cable systems.[321] Some SMATV systems use microwave transmissions and wires to serve multiple buildings that are not commonly owned.[322] Under the 1996 Act, SMATV operators may use wires to connect separately owned buildings, as long as the wires do not traverse public rights-of-way.[323]

92. SMATV operators consist of hundreds of small and medium size firms throughout the nation.[324] Among the largest SMATV operators as of December 1999 were MidAtlantic Communications, Global Interactive Communications, Pace Electronics, Future Trak, LyncStar Integrated Communications, and OnePoint Communications Corp.[325] These relatively large SMATV operators serve between 15,000 and 55,000 subscribers each.[326] Most SMATV operators serve approximately 3,000-4,000 customers.[327] According to NCTA, as of July 2000, SMATV subscribership remained relatively unchanged from a year earlier at 1.5 million subscribers.[328]

93. Currently, many private cable operators offer the same services offered by franchised cable operators, including local and long distance residential telephone service, Internet access, and digital video.[329] One source indicates that the average private cable operator offering SMATV video service usually delivers about 30-45 channels.[330] We have previously reported that SMATV operators are joining

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[321] 1996 Act, sec. 301(a)(2), 47 U.S.C. § 522(7). For example, private cable and SMATV operators: (a) are not required to obtain cable television franchises; (b) do not face regulatory constraints on the geographic areas in which they may offer video services; (c) do not pay franchise and Federal Communications Commission subscriber fees; (d) are not obligated to pass every resident in a given area; (e) are not subject to rate regulation; and (f) are not subject to must carry and local government access obligations. *1997 Report*, 13 FCC Rcd at 1085 ¶ 82, n. 296.

[322] *Id.* at 1085 ¶ 82. The Commission held in 1991 that microwave transmissions do not "use" public rights-of-way. *Amendment of Part 94 of the Commission's Rules to Permit Private Video Distribution Systems of Video Entertainment Access to the 18 GHz Band*, PR Docket No. 90-5, Report and Order, 6 FCC Rcd 1270, 1271 ¶ 10 (1991).

[323] 1996 Act sec. 301(a)(2), 47 U.S.C. § 522(7). Prior to the 1996 Act, to qualify for this exception the buildings had to be under common ownership, control, or management. *1997 Report*, 13 FCC Rcd at 1085 ¶ 82, n. 297.

[324] *Id.* at 1085 ¶ 83.

[325] *Ten Largest Private Cable Operators/Multiple System Operators,* Private Cable & Wireless Cable, Dec. 1999, at 4.

[326] *Id.*

[327] *1999 Report,* 15 FCC Rcd at 1023 ¶ 94.

[328] NCTA Comments at 9. Last year, NCTA reported 1.45 million SMATV subscribers, which rounds to 1.5 million. *See 1999 Report,* 15 FCC Rcd at 1023-24 ¶ 95. This year NCTA reports 1.5 million SMATV subscribers. *See* NCTA Comments at 9.

[329] *See* Mor Allon, *Competition for Convergence: The Battle Cry for Bundled Services*, Private & Wireless Broadband, Sept. 2000, at 32; *see also* Gerard Lavery Lederer, *Critical Connection?*, Private & Wireless Broadband, July 2000, at 28; *1998 Report*, 13 FCC Rcd at 24342 ¶ 92; *1999 Report,* 15 FCC Rcd at 1024-25 ¶¶ 94-98. In previous years, we reported that SMATV providers offer other unique services such as closed-circuit security monitoring, voice mail, paging, and touch-screen monitor kiosk customer service. *1999 Report,* 15 FCC Rcd at 1024 ¶ 96.

[330] Mor Allon, *How the PCO Can Improve the Bottom Line Providing Bundled Services to MDUs*, Private & Wireless Broadband, June 2000, at 16. Last year we reported that the number of channels being offered by SMATV operators responding to an industry poll was approximately 89 channels, with a low of 50 channels and a high of

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with satellite providers to combine analog antenna and DBS systems in order to increase service offerings.[331] As we reported last year, this enables SMATV operators to offer as many as 200 channels.[332] This trend continues. As of year-end 1999, 43 percent of SMATV operators said they plan to add DBS services over the next year.[333] In addition, as many as 33 percent of private cable operators offer telephony as a licensed competitive local exchange carrier ("CLEC").[334]

94. On June 22, 2000, the Commission adopted a *Report and Order* addressing the allocation of the 18 GHz band.[335] The 18 GHz band is the spectrum that SMATV operators use for microwave transmission to serve multiple buildings that are not commonly owned. SMATV operators were concerned by a proposal set forth in the foregoing *Notice of Proposed Rulemaking* that would have terminated their use of the 18 GHz band.[336] In the *Report and Order*, the Commission concluded that SMATV operators would not be able to compete effectively if the 18 GHz band were redesignated and ruled that all current use of this spectrum by SMATV operators may continue.[337]

95. On July 13, 1999, the Commission adopted a *Notice of Proposed Rulemaking* seeking comment on a proposal to allow SMATV operators to use Cable Television Relay Service ("CARS") 12 GHz band channels to deliver video programming.[338] Because SMATV systems do not use public rights-of-way, and are technically not cable operators, they have been ineligible for CARS licenses.[339] In addition, the Commission sought comment on whether the CARS band should be expanded to include the frequency band segment from 13.20-13.25 GHz, currently designated for television broadcast auxiliary service. This proceeding is still pending.

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200 channels offered. *1999 Report*, 15 FCC Rcd at 1024 ¶ 97. This figure is derived from the reports of 18 operators, and likely includes SMATV operators that offer video over a combined SMATV/DBS system.

[331] *1999 Report*, 15 FCC Rcd at 1024-25 ¶ 98. Such systems can offer residents traditional SMATV service alone, or a "bulk service" that combines traditional SMATV with select DBS feeds. Residents can also choose DBS on an a la carte basis and can thereby receive more channels than are available from bulk service. *Id.*

[332] *Id.* at 1024 ¶ 97.

[333] *Ten Largest Private Cable Operators/Multiple System Operators*, Private Cable & Wireless Cable, Dec. 1999, at 4. This information is based solely on responses to a Private Cable & Wireless Cable magazine survey.

[334] *Id.* at 5.

[335] *Redesignation of the 17.7-19.7 GHZ Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use*, IB Docket No. 98-172, Report and Order ("*18 GHz Report and Order*"), 15 FCC Rcd 13430 (2000).

[336] *18 GHz Report and Order*, 15 FCC Rcd at 13446 ¶34.

[337] *Id.* at 13450 ¶41. "In consideration of the comments ... we conclude ...[that] private cable operators using the 18 GHz band, for both current and future operations, will not be able to compete effectively against franchised cable operators if we redesignate the 18.3-18.55 GHz band..." *Id.*

[338] *1999 Report*, 15 FCC Rcd at 1023 ¶ 93; *Petition for Rulemaking To Amend Eligibility Requirements in Part 78 Regarding 12 GHz Cable Television Relay Service*, CS Docket No. 99-250, Notice of Proposed Rulemaking, 14 FCC Rcd 11967 (1999).

[339] 47 C.F.R. § 78.13.

96. Two years ago, we reported that on June 4, 1998, the Commission adopted a *Memorandum Opinion and Order* granting a motion for declaratory ruling filed by Entertainment Connections Inc. ("ECI") for a determination that it was not a cable operator and did not need a franchise under section 621 of the Communications Act.[340] At issue was ECI's use of Ameritech's facilities to transport video programming across public rights-of-way to subscribers in MDUs. ECI's facilities are located solely on private property, not crossing any public rights-of-way, and Ameritech's facilities that deliver signals from ECI's headend facilities to the MDUs are not owned, managed, or controlled by ECI.[341] In December 1999, the U.S. Court of Appeals for the Seventh Circuit upheld the Commission's *Order* in full.[342] In October 2000, the U.S. Supreme Court declined to review the appellate decision.[343]

97. On October 9, 1997, the Commission adopted a *Report and Order and Second Further Notice of Proposed Rulemaking* that amended the cable inside wiring rules to provide opportunities for new entrants seeking to compete in distributing video programming, particularly MVPDs seeking to provide service in MDUs.[344] Specifically, the Commission's rules establish procedures for the disposition of cable "home run" wiring where the incumbent MVPD no longer has a legally enforceable right to remain in the building. The *Second Further Notice of Proposed Rulemaking* seeks comments on the advantages or disadvantages of exclusive contracts in promoting a competitive environment, and whether there are circumstances where the Commission should adopt restrictions on exclusive contracts in order to further promote competition in the MDU marketplace. The rules became effective on March 13, 1998, and the Commission is currently reviewing the petitions for reconsideration and comments filed in this proceeding.

F. Broadcast Television Service

98. Broadcast networks and stations are competitors to MVPDs particularly in the advertising and program acquisition markets. Broadcast networks also compete with MVPDs by supplying video programming over the air, particularly to those who do not subscribe to an MVPD service. Additionally, broadcast networks and stations are suppliers of content for distribution directly to consumers and to consumers through MVPDs.[345] Since the *1999 Report*, the number of commercial and noncommercial television stations increased to 1663 as of September 30, 2000, from 1599 as of July 31, 1999.[346] Total

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[340] *See 1998 Report*, 13 FCC Rcd at 24340 ¶ 89; *see also Entertainment Connections, Inc., Motion for Declaratory Ruling*, Memorandum Opinion and Order ("*1998 ECI Ruling*"), 13 FCC Rcd at 14277 (1998).

[341] *See 1998 ECI Ruling*.

[342] *City of Chicago v. FCC*, 199 F.3d 424 (7th Cir. 1999), *cert. denied*, 121 S. Ct. 71 (2000).

[343] *Id.*

[344] *Telecommunications Services Inside Wiring, Customer Premises Equipment, Implementation of the Consumer Protection and Competition Act of 1992: Cable Home Wiring*, CS Docket No. 95-184 and MM Docket No. 92-260, Report and Order and Second Further Notice of Proposed Rulemaking ("*Inside Wiring Order*"), 13 FCC Rcd 3659 (1998).

[345] *See 1995 Report*, 11 FCC Rcd at 2113-15 ¶¶ 112-115.

[346] *Compare* Federal Communications Commission, *Broadcast Station Totals as of August 30, 1999*, FCC News Release (Sept. 11, 1999) *with* Federal Communications Commission, *Broadcast Station Totals as of September 30, 2000*, FCC News Release (Nov. 29, 2000). Totals as of August 2000 are not available.